MAY 1975

DRiVER

everything you need to know about

tires

take your motorcycle along

DRiVER

Everything You Need to Know About

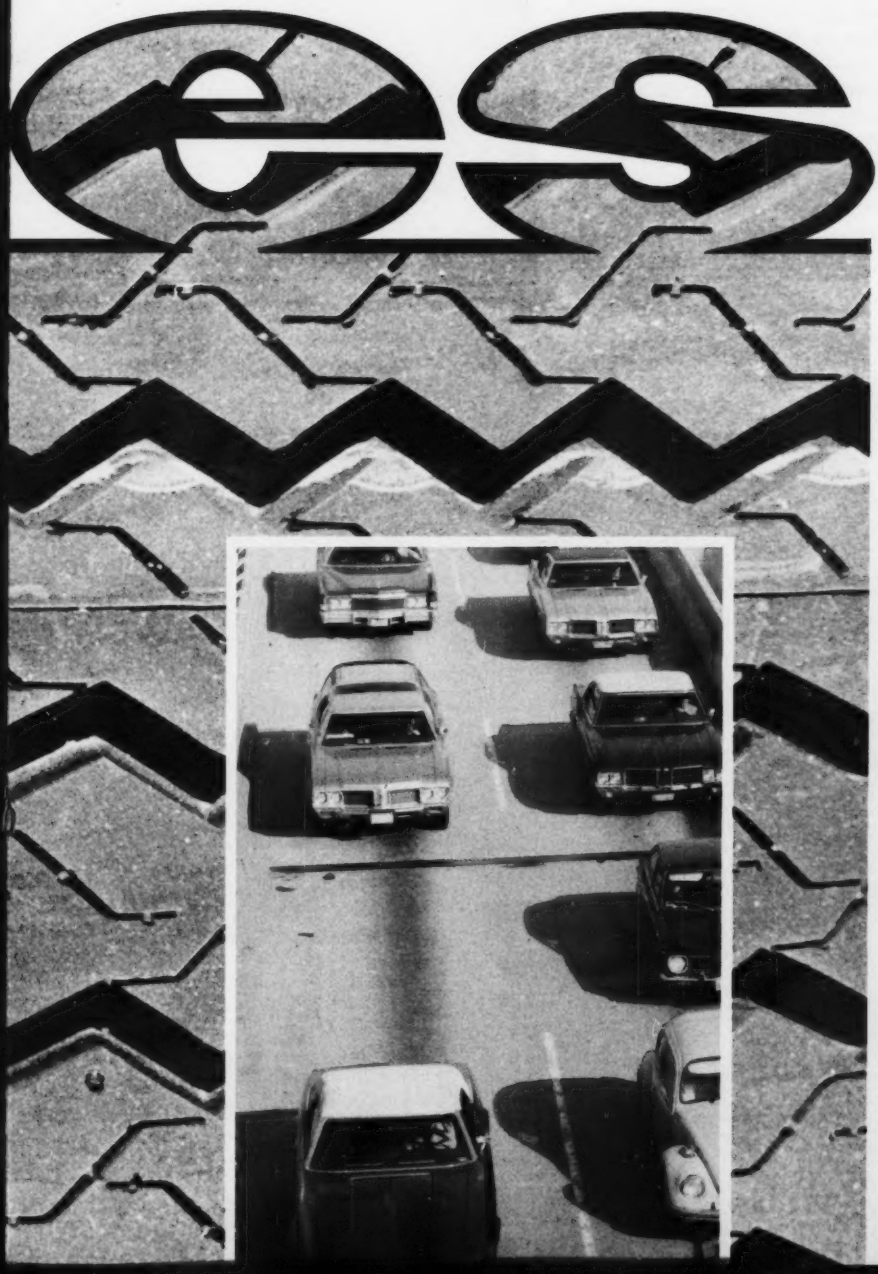
TIRES

If you haven't already, this is the time to take a good look at your car's tires. You want to make sure there's plenty of tread and that the tires are wearing evenly. Uneven wear is no biggie—just a few bucks at the local alignment and balance shop. But if the tread wear indicators are showing (solid bands of rubber across the tread, see drawing) then you're low on tread and in definite need of new rubber.

Now don't start groaning thinking about the cost of new tires because we've got good news for you. The price of tires has increased only about one-quarter what the cost of other goods and service increased in the last five years. So smile as you fork over your life savings for a set of tires. You're really getting a bargain.

If you're in need of tires, chances are you're thinking radial. The radial revolution has really taken the country by storm in the last two years with many new cars coming with radials and nearly all new cars equipped with radial-tuned suspensions. And with the gas prices up and not ever coming down, most everybody knows about the fuel-saving effect of radials.

However, there are some considerations with radials that we need to talk about as well as some other tire information you may find helpful. First, let's define our terms.



TIRE TYPES

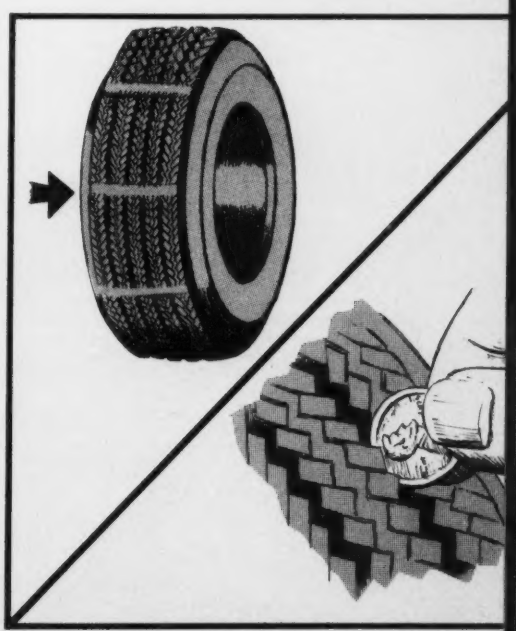
"Bias," "belted," and "radial" are probably familiar terms to most of you if you've checked into tires in the last few years. These terms actually refer to the tire's ply construction. However, the real difference between these tires are the handling characteristics, tread strength, tread mileage, and price.

The bias-ply or conventional tire is the lowest priced tire, but offers the least tread mileage at the highest cost per mile. The bias tire is best suited to light around-town type driving. It wears quickly and is most prone to failure under hard use.

The bias-belted tire is simply an improvement on the conventional tire. It uses special cord belts underneath the tread to add strength and stability to the tread. The belted tire is stronger and offers better handling and tread mileage than the conventional tire. It is standard equipment on new cars that do not come with radials.

The radial-ply tire is also belted, but it differs from a conventional tire because its body plies run around the tire body in hoop fashion, or radially, instead of meeting at an angle in the center of the tire. This type of body ply construction makes the radial the strongest, safest, best handling, and longest

continued



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THE EDITOR SPEAKS

DOUBLE CLUTCH

IT'S WHO'S UP FRONT THAT COUNTS

No doubt you reap rewards by driving a compact car, especially when it comes to good gas mileage and vastly improved handling over standard cars. But some of us who are over six feet tall have problems with the lack of comfort and inability to work the controls freely. It shows up when you bang your knee into your chin when working the clutch or making a fast movement from gas pedal to the brakes.

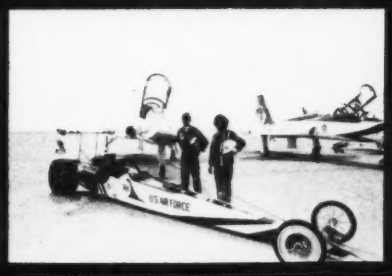
Of course this is somewhat of an exaggeration. Yet some tall people do run into handicaps that impair their driving ability. It may simply be not having the room to stretch the legs out fully during a prolonged trip. This not only makes the trip miserable, but also zonks your attitude and ability to react. But there may be hope, according to what DRIVER learned recently.

We know of at least one compact car dealer who offers the addition of front seat extension rails at no extra charge. This makes it possible to slide the front seat back a little farther, thus increasing the driver's ability to work the controls plus adding to his comfort. The price paid may be the comfort of the rear seat passengers, but it's really more important that the driver has his freedom of movement. Besides, most of your driving probably does not involve having rear seat passengers in a compact for a long trip.

Anyway, DRIVER recommends you tall drivers who are thinking of buying a compact also look into making a little more room for yourself. Before you buy, see if the dealer will install extension rails at no extra cost. It could make a big difference.

NEXT MONTH

Drag Racing and The Air Force



mileage tire of all. The radial is the most expensive tire, but it offers the lowest cost per mile of any tire, since tread mileage over 50,000 miles is not uncommon. The tire buyer's quiz can help you decide which tire is best suited to your driving needs.

BELTS

Now that belted and radial tires (also belted) have overtaken the tire world, the question of belts is bothering some people. For instance, many people think a belted tire is always fiberglass-belted and a radial must be made with steel. Actually, the tread support belts used in both of these tire types may be rayon, polyester, fiberglass, or steel. The difference is the strength, guarantee, and price of the tires, depending on the type of belts used.

An all-fabric tire is usually less expensive, but carries less of a guarantee than a tire belted with fiberglass or steel. Steel is considered to be the strongest belting material, but is also the most expensive. Fiberglass generally runs a pretty close second to steel in both strength and price.

The important point is to know that there is a difference in the construction of belted and radial tires. This is especially true with radials—many people buy radials assuming they are steel-belted when they may be an all-fabric tire. A tire dealer can explain a particular tire's construction and relative advantages, so you can choose the tire which best fits your needs and budget. The tire's construction along with plenty of other valuable info about the tire is also clearly molded into the sidewall of every tire made since 1968.

RETREADS

If you're strapped for money, consider retreads. They cost only about half as much as new tires but provide the same guarantee.

Retreads are offered in radial, belted-bias and bias-ply construction in almost all sizes. They cost so much less than a new tire because the original tire body is reused. The tire body is the major cost of a tire. Before a tire body is reused, it is subject to a meticulous inspection to be sure it is not damaged. A new tread then is applied and it is bonded to the body under heat and pressure in a vulcanizing press.

Retreading is simply a form of recycling, of reusing materials which otherwise would be scrapped.

CODE

One item that still baffles the average tire buyer is the current tire size-service designation code. Basically, the new code indicates the very same thing the old code did, but in a different way. For instance, if a tire was labeled 7.75-14 under the old system, you knew it was about 7¾ inches wide and fit on a 14-inch rim.

A popular replacement size for that particular tire would be labeled F78-14 today. The 14 means it fits on a 14-inch rim, as before, and the F refers to the tire's size—the equivalent of a 7.75 in this case. The number following the letter is an addition to the old code, and is the information you need to be most concerned with. This is the aspect ratio, or the tire's body height compared to its width. In this case, the tire is 78 percent as high as it is wide.

Some foreign-made radials use a special coding system which combines metric measures and inches. A tire dealer can explain this system, as well as the standard code if you are unsure of what tire you need. The tire size comparison chart should further clarify exactly how the current tire codes work.

PROFILE

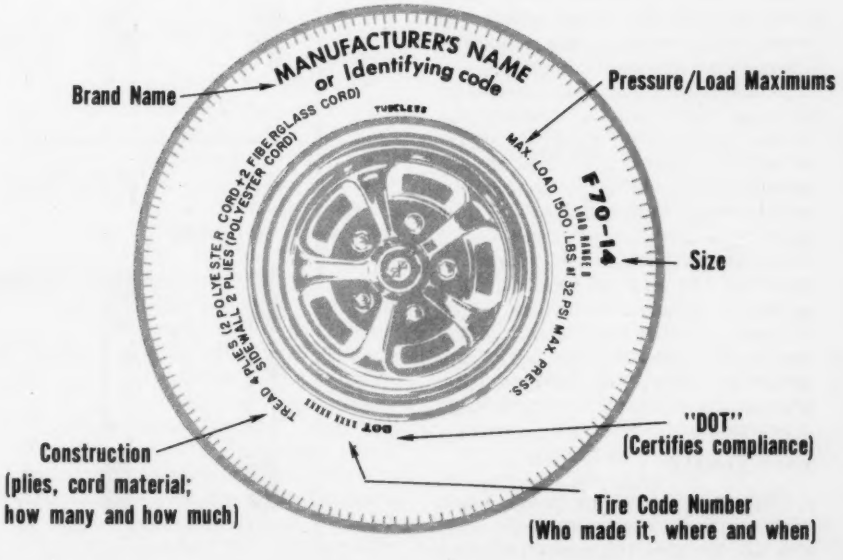
The aspect ratio or profile of a tire is especially important because of the recent trend toward lower, wider tires, or "low-profile" tires, as they are called. There are several good reasons for this change in tire design. Essentially, a slightly lower, wider tire lowers the car's center of gravity and puts more rubber on the road for safer, surer handling under nearly all conditions. The aspect ratio is what indicates the tire profile—the lower the aspect ratio, the wider the tire. For instance, a 70-series tire is wider than a 78-series. Tires are made in the super-wide 60-and 50-profile series. However, 70 is generally the lowest profile size suited to "normal" driving.

When you're ready to replace tires, you may want to consider going to lower-profile tires. In most cases this will improve your car's handling and is well worth the additional cost. However, before replacing standard-size tires, check your owner's manual or with a reputable tire dealer for the recommended replacement size on your car. In some cases, a wider-than-standard tire is not recommended. Also, you should not mix tire sizes or profiles at any time.

RADIAL QUESTIONS

Now let's get into a couple of popular not-so-true beliefs concerning radials. Many people think radials cannot be used on certain cars, and if they are the car's suspension system will fall apart or the car will handle dangerously. But consensus among tire industry experts is that radials can be success-

continued



fully fitted to *any* car.

In the past, car manufacturers have recommended against the use of radials on some of their models. However, this is a matter of ride comfort rather than safety. Some cars, especially pre-1970 American cars, have suspension systems which aren't "tuned" for radial use. If radials are used on these cars, a harsher than normal ride may result. But the B. F. Goodrich Tire Division specifies that radials will improve the handling and performance of any well-maintained vehicle.

So, if you have an older car and want to take advantage of the improved handling, safety, gas mileage, and tread life offered by radials, it shouldn't be any sweat—providing the car manufacturer doesn't expressly recommend against radials. In any case, you should check your owner's manual, dealer, or a reputable tire dealer.

Naturally, it doesn't make dollar sense to put expensive radials on a car that has only 20,000 miles or so of road life left in it anyway.

CONSIDERATIONS

There are a couple of important considerations when equipping a car with radials. Although radials are the best performing tire going, they may not be as well suited for certain types of heavy use as a belted tire. If you drive a van or do a lot of towing, ask a tire dealer before installing radials.

Radials also should not be installed on a car with a worn or damaged suspension system, and they should always be used in a complete set. For best all-around safety and handling, it's now recommended that tire types not be mixed on a vehicle at any time. This is especially true with radials because of their radically different handling characteristics—radials should never be used with any other tire type. Manufacturers now warn against mixing any tires—especially radials—of different sizes, profiles, constructions, and tread design at any time.

SNOW RADIALS

One still unresolved radial hassle concerns their effectiveness on snow and ice. No state recognizes radials as approved snow tires at this time. Most companies manufacture radial snow tires

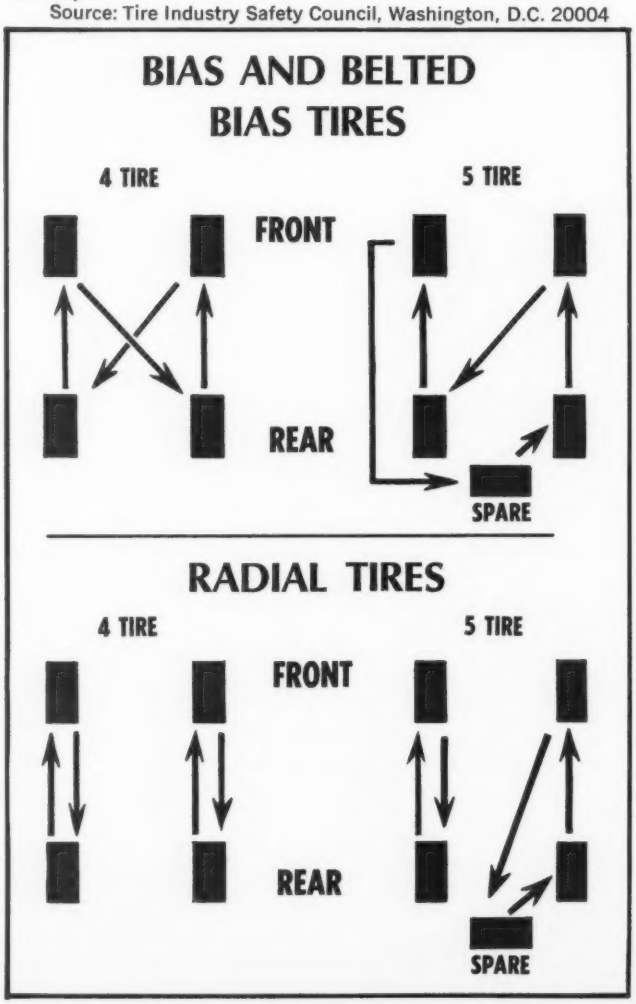
MANUFACTURER'S ROTATION RECOMMENDATION FOR RADIAL-PLY TIRES

ARMSTRONG	B. F. GOODRICH	BRIDGESTONE	DUNLOP	FIRESTONE
rotate every 4000-5000 mi.	inspect at 5000-mi. intervals, rotate if necessary	inspect at 5000-mi. intervals; rotate if necessary; criss-cross textile-belted every 7000 mi.	rotate every 6000-8000 mi.	rotate every 6000-8000 mi.

GATES	GENERAL	GOODYEAR	MICHELIN	PIRELLI	UNIROYAL
rotate every 4000 mi.	rotate every 6000 mi.	rotate every 6000-8000 mi.	rotate only if necessary	rotate every 5000 mi.	rotate every 5000-6000 mi.

NEW TIRE ROTATION PLAN—Here are the new patterns of auto tire rotation recommended by the Tire Industry Safety Council for safe, even wear and long mileage. Tires should be rotated every 6,000 to 8,000 miles, or sooner if irregular wear begins to develop.

Source: Tire Industry Safety Council, Washington, D.C. 20004



IMPORTANT: ALWAYS CHECK THE VEHICLE MANUFACTURER'S RECOMMENDATIONS BEFORE REPLACING TIRES WITH DIFFERENT SIZES AND/OR CONSTRUCTIONS

TIRE COMBINATIONS

Construction		Bias on Front (Read down for rear)				Belted Bias on Front (Read down for rear)			Radial on Front (Read down for rear)			
	Series (Profile)	Conventional* (83 Series)	78 Series	70 Series	60/50 Series	78 Series	70 Series	60/50 Series	Metric*	78 Series	70 Series	60/50 Series
	Conventional* (83 Series)	Preferred	Acceptable	NO	NO	Acceptable	NO	NO	NO	NO	NO	NO
Bias on Rear (Read across for front)	78 Series	Acceptable	Preferred	Acceptable	NO	Acceptable	NO	NO	NO	NO	NO	NO
	70 Series	Acceptable	Acceptable	Preferred	NO	Acceptable	Acceptable	NO	NO	NO	NO	NO
	60/50 Series	Acceptable	Acceptable	Acceptable	Preferred	Acceptable	Acceptable	Acceptable	NO	NO	NO	NO
Belted Bias on Rear (Read across for front)	78 Series	Acceptable	Acceptable	Acceptable	NO	Preferred	Acceptable	NO	NO	NO	NO	NO
	70 Series	Acceptable	Acceptable	Acceptable	NO	Acceptable	Preferred	NO	NO	NO	NO	NO
	60/50 Series	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Preferred	NO	NO	NO	NO
Radial on Rear (Read across for front)	Metric*	Acceptable	Acceptable	Acceptable	NO	Acceptable	Acceptable	NO	Preferred	Acceptable	Acceptable	NO
	78 Series	Acceptable	Acceptable	Acceptable	NO	Acceptable	Acceptable	NO	Acceptable	Preferred	Acceptable	NO
	70 Series	Acceptable	Acceptable	Acceptable	NO	Acceptable	Acceptable	NO	Acceptable	Acceptable	Preferred	NO
	60/50 Series	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Preferred

* See Size Comparison Chart

Preferred — Acceptable — NO

In the past, the tire industry generally has recommended against mixing of tire types, profiles, and sizes on the same vehicle. However, because of the completion of some recent studies that indicated that gross mismatch of tires causes more serious problems than previously thought, the industry is coming out with an even firmer position against mismatching. The industry now strongly recommends that car owners stick with the equipment originally specified by the manufacturer. This chart shows the only mixes considered acceptable at this time.

and specify their use with radials on the front axle to prevent dangerous oversteer.

ROTATION

Another radial question which was resolved a couple of years ago is that of rotation. Following extensive controversy and resulting study, a new plan of rotation for bias and belted tires, and a separate rotation pattern for radials, was adopted by the tire industry. Most manufacturers are now recommending rotation of conventional and belted tires every 6 to 8 thousand miles following the pattern shown in the illustration to maximize tire mileage.

The manufacturers' recommendations for rotation of radials varies, however. Some companies specify regular rotation, while others recommend rotation only if uneven wear develops. Your best bet is to check with your dealer before rotating any radials. Also, the rotation pattern for radials must be used to prevent serious tire damage. We have included a partial list of some popular manufacturers' rotation recommendations for radials.

INFLATION

Maintaining proper tire pressure is the most important factor in maximizing tire life as well as gas mileage. However, many people don't realize that there isn't any one correct inflation pressure. The pressure recommendations given in the owner's manual are for normal driving conditions— this excludes sustained highway speeds or extra weight in the vehicle. Studies have also shown that the manufacturers' recommended inflation levels may be a bit low in many cases. An improvement in handling and tread mileage can usually be achieved by inflating the tires from 2 to 4 pounds over the normal recommendations—especially with radials. You should check with your tire dealer for the *tire* manufacturers' recommended inflation levels for your car—these may differ from the car-maker's specs. Also, you can experiment to find the best inflation levels for your car's tires, as long as you don't exceed the tire's maximum inflation level (shown on the sidewall) or go under the minimum recommended by the car manufacturer.

Inflating the tires about 4 pounds over the regular pressure for sustained high-speed driving, as recommended in your owner's manual, is also essential for maximizing tire mileage. This allows the tire to run cooler, decreasing wear and the chance of tire failure. However, be sure not to exceed the maximum inflation level.

LOAD/OVERLOAD

Adjusting tire inflation levels for carrying loads is also an important but overlooked factor in good tire mileage and safety. Most people know that driving with underinflated tires cause excess tread wear and dangerous handling characteristics, as well as making the tires prone to faiure. But most people don't stop to think that overloading their car's tires has exactly the same effect as having underinflated tires.

To keep from overloading your vehicle's tires, first check the tire's load range and load-carrying capacity in your owner's manual or on the tire's sidewall. Nearly all passenger car tires

continued

AUTOMOBILE TIRE SIZE AND LOAD AND INFLATION TABLES

TIRE SIZE DESIGNATIONS

INTERCHANGEABILITY IS NOT IMPLIED — SEE NOTE 4

Bias		Bias and Belted Bias				Radial			
1965-On	Pre-1965	'78 Series	'70 Series	'60 Series	'50 Series	Metric	'78 Series	'70 Series	'60 Series
6.00-13						165 R 13			
		A78-13	A70-13	A60-13			AR 78-13	AR 70-13	AR 60-13
6.50-13		B78-13		B60-13		175 R 13	BR 78-13	BR 70-13	BR 60-13
		C78-13		C60-13			CR 78-13		
7.00-13						185 R 13			
		D78-13	D70-13	D60-13			DR 78-13	DR 70-13	
						195 R 13	ER 78-13		ER 60-13
						155 R 14			
6.45-14	6.00-14	B78-14				165 R 14	BR 78-14		
6.95-14	6.50-14	C78-14	C70-14			175 R 14	CR 78-14	CR 70-14	
		D78-14	D70-14	D60-14			DR 78-14	DR 70-14	
7.35-14	7.00-14	E78-14	E70-14	E60-14		185R 14	ER 78-14	ER 70-14	
7.75-14	7.50-14	F78-14	F70-14	F60-14		195 R 14	FR 78-14	FR 70-14	FR 60-14
8.25-14	8.00-14	G78-14	G70-14	G60-14		205 R 14	GR 78-14	GR 70-14	GR 60-14
8.55-14	8.50-14	H78-14	H70-14	H60-14	H50-14	215 R 14	HR 78-14	HR 70-14	
8.85-14	9.00-14	J78-14	J70-14	J60-14		225 R 14	JR 78-14	JR 70-14	JR 60-14
	9.50-14		L70-14	L60-14				LR 70-14	
					N50-14				
		A78-15					AR 78-15		
	6.00-15	B78-15		B60-15		165 R 15	BR 78-15	BR 70-15	
6.85-15	6.50-15	C78-15	C70-15	C60-15		175 R 15	CR 78-15	CR 70-15	
		D78-15	D70-15				DR 78-15	DR 70-15	
7.35-15		E78-15	E70-15	E60-15		185 R 15	ER 78-15	ER 70-15	ER 60-15
7.75-15	6.70-15	F78-15	F70-15	F60-15		195 R 15	FR 78-15	FR 70-15	FR 60-15
8.25-15	7.10-15	G78-15	G70-15	G60-15	G50-15	205 R 15	GR 78-15	GR 70-15	GR 60-15
8.55-15	7.60-15	H78-15	H70-15	H60-15	H50-15	215 R 15	HR 78-15	HR 70-15	HR 60-15
8.85-15	8.00-15	J78-15	J70-15	J60-15		225 R 15	JR 78-15	JR 70-15	JR 60-15
9.00-15	8.20-15		K70-15					KR 70-15	
9.15-15		L78-15	L70-15	L60-15		235 R 15	LR 78-15	LR 70-15	LR60-15
		M78-15							
7.00-15									
		N78-15			N50-15			MR 70-15	
8.90-15									
6.00-16									
6.50-16									
7.00-16									

LOAD LIMITS (LBS. PER TIRE)

Load Range B (4-ply rating) ——→
Load Range C (6-ply rating) ——→
Load Range D (8-ply rating) ——→

COLD INFLATION PRESSURES—POUNDS PER SQUARE INCH										
20	22	24	26	28	30	32	34	36	38	40
770	820	860	900	930	970	1010	1040	1080	1110	1140
810	860	900	940	980	1020	1060	1090	1130	1160	1200
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
980	1030	1080	1130	1180	1230	1270	1310	1360	1400	1440
980	1030	1080	1130	1180	1230	1270	1310	1350	1400	1440
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1060	1110	1170	1220	1280	1320	1370	1420	1470	1510	1560
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
780	820	860	900	940	970	1010	1040	1080	1110	1140
860	910	960	1000	1040	1080	1120	1160	1200	1240	1270
840	900	930	980	1020	1060	1100	1130	1170	1210	1240
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
860	910	960	1000	1040	1080	1120	1170	1200	1240	1280
950	1000	1050	1100	1140	1190	1230	1270	1310	1350	1390
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
930	990	1030	1080	1130	1170	1210	1250	1300	1330	1370
950	1000	1050	1100	1140	1190	1230	1280	1320	1360	1400
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1040	1100	1160	1210	1260	1310	1360	1400	1450	1490	1540
1030	1100	1140	1190	1240	1290	1340	1380	1430	1470	1520
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
1040	1100	1160	1210	1260	1310	1360	1410	1450	1500	1540
1150	1210	1270	1330	1390	1440	1500	1550	1600	1650	1690
1150	1230	1280	1340	1390	1450	1500	1550	1600	1650	1700
1160	1220	1280	1340	1400	1450	1500	1550	1610	1650	1700
1150	1210	1270	1330	1390	1440	1500	1540	1590	1640	1690
1250	1310	1380	1440	1500	1560	1620	1670	1730	1780	1830
1240	1320	1380	1440	1500	1560	1620	1670	1730	1780	1830
1250	1310	1380	1440	1500	1560	1620	1680	1730	1780	1830
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2000
1330	1420	1480	1550	1610	1670	1740	1790	1850	1910	1960
1360	1440	1510	1580	1650	1710	1770	1830	1890	1950	2010
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2010
1430	1510	1580	1660	1730	1790	1860	1920	1990	2050	2100
1430	1510	1580	1660	1730	1790	1860	1920	1990	2050	2100
1430	1500	1580	1650	1720	1790	1860	1920	1980	2040	2100
1430	1510	1580	1660	1730	1790	1860	1920	1980	2040	2100
1540	1640	1700	1780	1850	1930	2000	2060	2130	2200	2260
1520	1600	1680	1750	1830	1900	1970	2040	2100	2170	2230
1700	1790	1880	1970	2050	2130	2210	2280	2360	2430	2500
810	860	900	940	980	1020	1060	1090	1130	1160	1200
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
890	940	980	1030	1070	1110	1150	1190	1230	1270	1300
870	910	960	1000	1050	1090	1130	1170	1200	1240	1280
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1390
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
980	1040	1080	1130	1180	1230	1270	1320	1360	1400	1440
950	1000	1050	1100	1140	1190	1230	1280	1320	1360	1400
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1070	1130	1180	1240	1290	1340	1390	1440	1480	1530	1570
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
1070	1130	1180	1240	1290	1340	1390	1430	1480	1520	1570
1150	1210	1270	1330	1380	1440	1490	1540	1590	1640	1690
1110	1190	1230	1290	1340	1400	1450	1500	1550	1590	1640
1160	1220	1280	1340	1400	1450	1500	1550	1610	1650	1700
1240	1300	1370	1430	1490	1550	1610	1660	1720	1770	1820
1190	1270	1320	1380	1440	1500	1550	1600	1660	1710	1760
1250	1310	1380	1440	1500	1560	1620	1680	1730	1780	1830
1250	1310	1380	1440	1500	1560	1620	1670	1730	1780	1830
1340	1410	1480	1550	1620	1680	1740	1800	1860	1910	1970
1310	1400	1450	1520	1580	1640	1710	1760	1820	1880	1930
1360	1440	1510	1580	1650	1710	1770	1830	1890	1950	2010
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2000
1430	1510	1580	1650	1720	1790	1860	1920	1980	2040	2100
1380	1470	1530	1600	1670	1730	1800	1860	1920	1980	2040
1430	1500	1580	1650	1720	1790	1860	1920	1980	2040	2100
1460	1540	1620	1690	1760	1830	1900	1970	2030	2090	2150
1470	1570	1630	1710	1780	1850	1920	1980	2050	2110	2170
1460	1540	1620	1690	1770	1830	1900	1970	2030	2090	2150
1510	1600	1680	1750	1830	1900	1970	2030	2100	2160	2230
1520	1600	1680	1750	1830	1900	1970	2040	2100	2170	2230
1510	1600	1680	1750	1830	1900	1970	2040	2110	2170	2230
1610	1700	1780	1860	1940	2020	2090	2160	2230	2300	2370
1310	1380	1450	1515	1580	1640	1700	1760	1820	1870	1930
1700	1790	1880	1970	2050	2130	2210	2280	2360	2430	2500
1700	1810	1880	1970	2050	2130	2210	2290	2360	2430	2500
1075	1135	1195	1250	1300	1350	1400	1450	1500		
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1365	1440	1515	1585	1650	1715	1780	1840	1900		

NOTES:

1. **Ply Rating** - Older tires marked "4-ply rating/2-ply" have the same load carrying capacity as a current or most recent 4-ply tire of the same size at the same inflation. Tires marked "8-ply rating/4-ply" have the same load carrying capacity as 4-ply rating tires of the same size at the same inflation, regardless of the actual number of plies. These criteria apply even though no industry-wide definition of ply rating exists.

2. **Load Range** - The "load range" system is now being used in tire marking with letters (e.g., Load Range B, C, D, etc.) to identify tires with their particular load and inflation limits and service requirements. While the old ply rating system has been phased out, both designations may be used on tire sidewalls and are shown in the tables. For example, Load Range B tires may be marked 4-ply rating/2-ply, or 4-ply; Load Range C tires, 6-ply rating/4-ply, or 6-ply; and Load Range D tires, 8-ply rating/4-ply, 8-ply rating/4-ply, or 8-ply.

3. Maximum inflation and load is that shown in the 32 psi column for Load Range B (4-ply rating) tires, 35 psi for Load Range C (6-ply rating) tires, and 40 psi for Load Range D (8-ply rating) tires.

   This information is also marked on the sidewalls of all new tires, for example, "Max. load 1300 lbs. @ 32 psi max. pressure." (This means cold inflation.) For normal operation, inflate to car manufacturer's recommended pressures.

4. If you are considering replacing or mixing present tires (e.g. 7.75-14) with other size designations or types, especially in the wider profiles ("78" "70," "60," or "50 Series"), be sure to check tire or car manufacturer's recommended options for the particular make and model as interchangeability is not always possible. (See owner's manual or sticker instructions in car.)

are load range B, which means they have a maximum inflation of 32 psi. The load capacity varies according to the tire's size, however.

To determine a vehicle's total carrying capacity, simply multiply by four the load capacity shown on the tire's sidewall. For instance, an F78-14 tire has a carrying capacity of 1500 @ 32 psi. This means the vehicle's total carrying capacity is 6000 pounds (4 x 1500) when the tires are at their maximum inflation. The maximum weight and/or inflation levels should never be exceeded on any vehicle.

In many instances, however, you will have additional weight in your vehicle —but less than the maximum capacity. In this case, you will have to compute the correct inflation pressure for carrying the specific load. To do this, simply add the vehicle's weight (shown in your owner's manual) to the weight being carried, including the passenger weight. Then check the total weight on the inflation chart to determine the correct inflation levels for your car's tires to safely accommodate the load. A tire dealer can also give you the correct tire pressures for a specified load in your vehicle. Finally, it's important to distribute any additional weight as evenly as possible in the vehicle.

INSPECTIONS

Along with maintaining correct inflation pressures, regular tire inspections are an essential part of tire maintenance. Tires should be replaced, and *must* be in many states, when the tread wear indicators (smooth bars across the tread) are showing, or when there is less than 1/16-inch of tread in any two adjacent grooves.

You should check regularly for fabric breaks, cuts, or any other tire damage. Also, it's important to be alert for unusual wear caused by misalignment of the front end, out-of-balance wheels, weak shock, or improperly inflated tires. Many tire shops now offer free, regular inspection and rotation when you buy new tires. Even if your shop offers this valuable service, it's still in your best interest to get in the habit of checking your tires' inflation pressure and general condition at least every two weeks. The accompanying list of tire tips should help you get at least a warranty's worth of safe, happy tire miles.

TIRE TIPS

- New tires should always be given a proper break-in—limit speed for the first 50 to 100 miles. This allows the tire to slowly adjust to the heat and stress of driving. Breaking-in radials is especially critical since they may exhibit inferior traction until their special rubber compounds adjust to heat.
- Buy a good tire pressure gauge and use it regularly. Service station gauges may be off from 2 to 15 psi.
- Check inflation with the tires cold —after they have been sitting at least 3 hours—not warm or hot after driving. The recommended inflation is based on a cold tire. Hot tires build up an extra 4 to 8 pounds of pressure.
- For steady, high-speed driving add 4 to 5 psi to the recommended air pressure. But *never* inflate above the tire's maximum pressure, usually 32 psi (cold reading).
- If one tire continues to need air, it may have a leak, bent rim, cracked valve stem or a faulty valve core. Refill it to the right pressure, but check it again after a few hours.
- When you check tire pressure, also check the spare. Nothing—not even running out of gas—is as foolish as a $50 tow charge because your spare is flat.
- Vacation trips usually mean heavy loads. Make sure the weight is distributed as evenly as possible in the vehicle. Be sure to adjust the tire pressure to accomodate the extra load.
- Form the habit of looking at your tires—tread surface, shoulders, and sidewalls for inflation. Radials always appear to be underinflated—but don't let that fool you into driving with a tire that's really under.
- Check front-end alignment frequently, especially if you notice uneven tread wear or "pulling" to one side while driving. Back roads or a few solid bumps on any surface can throw off the alignment.
- If you notice abnormal tread wear or seem to be getting a bad ride, this is a good time to have your tires balanced.
- Check the tires regularly for wear and remove any debris such as embedded glass or stones.
- When you buy new tires, have the old valve stems replaced. Valve stems can crack, become brittle, and wear out. A few cents for a new valve stem is a very good investment. Metal stems are probably the best bet.
- Driving on snow tires for any prolonged period in warm weather is poor economy. Abnormally high heat buildup in these thicker tires can wear down the tread faster than in regular tires. It may also cause sudden failure.

Quick Quiz

This short quiz adapted from one published by the Firestone Tire and Rubber Co. can give you a good picture of the tire you need.

Add the point total of these five questions.

1. **How fast do you drive?** Seldom over 50 (2 points), mostly over 50 (3 points).
2. **How often on rough roads?** Seldom (1 point), frequently (2 points), mostly (3 points).
3. **How often with a heavy load?** (Two or more adult passengers, heavy cargo, or both). Seldom (1 point), frequently (2 points), mostly (3 points).
4. **How many more miles will you drive this car?** (Multiply the miles per year by the number of years you'll keep the car.) 10,000 or less (1 point), 25,000 or less (2 points), 40,000 or more (3 points).
5. **What kind of driver are you?** Easy (1 point), average (2 points), hard (3 points).

If your point total is fewer than 8, you can use a bias-ply tire in the lower price range. 8 to 11 points should lead you to a belted tire. If you racked up over 12 points, you'd better get into a radial, or at least a top-quality belted tire.

AUTOMOBILE TIRE SIZE AND LOAD AND INFLATION TABLES

TIRE SIZE DESIGNATIONS

INTERCHANGEABILITY IS NOT IMPLIED — SEE NOTE 4

Bias		Bias and Belted Bias				Radial			
1965-On	Pre-1965	'78 Series	'70 Series	'60 Series	'50 Series	Metric	'78 Series	'70 Series	'60 Series
6.00-13						165 R 13			
		A78-13	A70-13	A60-13			AR 78-13	AR 70-13	AR 60-13
6.50-13		B78-13		B60-13		175 R 13	BR 78-13	BR 70-13	BR 60-13
		C78-13		C60-13			CR 78-13		
7.00-13						185 R 13			
		D78-13	D70-13	D60-13			DR 78-13	DR 70-13	
						195 R 13			
							ER 78-13		ER 60-13
						155 R 14			
6.45-14	6.00-14	B78-14				165 R 14	BR 78-14		
6.95-14	6.50-14	C78-14	C70-14			175 R 14	CR 78-14	CR 70-14	
		D78-14	D70-14	D60-14			DR 78-14	DR 70-14	
7.35-14	7.00-14	E78-14	E70-14	E60-14		185R 14	ER 78-14	ER 70-14	
7.75-14	7.50-14	F78-14	F70-14	F60-14		195 R 14	FR 78-14	FR 70-14	FR 60-14
8.25-14	8.00-14	G78-14	G70-14	G60-14		205 R 14	GR 78-14	GR 70-14	GR 60-14
8.55-14	8.50-14	H78-14	H70-14	H60-14	H50-14	215 R 14	HR 78-14	HR 70-14	
8.85-14	9.00-14	J78-14	J70-14	J60-14		225 R 14	JR 78-14	JR 70-14	JR 60-14
	9.50-14		L70-14	L60-14				LR 70-14	
		A78-15			N50-14		AR 78-15		
	6.00-15	B78-15		B60-15		165 R 15	BR 78-15	BR 70-15	
6.85-15	6.50-15	C78-15	C70-15	C60-15		175 R 15	CR 78-15	CR 70-15	
		D78-15	D70-15				DR 78-15	DR 70-15	
7.35-15		E78-15	E70-15	E60-15		185 R 15	ER 78-15	ER 70-15	ER 60-15
7.75-15	6.70-15	F78-15	F70-15	F60-15		195 R 15	FR 78-15	FR 70-15	FR 60-15
8.25-15	7.10-15	G78-15	G70-15	G60-15	G50-15	205 R 15	GR 78-15	GR 70-15	GR 60-15
8.55-15	7.60-15	H78-15	H70-15	H60-15	H50-15	215 R 15	HR 78-15	HR 70-15	HR 60-15
8.85-15	8.00-15	J78-15	J70-15	J60-15		225 R 15	JR 78-15	JR 70-15	JR 60-15
9.00-15	8.20-15		K70-15					KR 70-15	
9.15-15		L78-15	L70-15	L60-15		235 R 15	LR 78-15	LR 70-15	LR60-15
		M78-15							
7.00-15									
		N78-15			N50-15			MR 70-15	
8.90-15									
6.00-16									
6.50-16									
7.00-16									

LOAD LIMITS (LBS. PER TIRE)

Load Range B (4-ply rating) →
Load Range C (6-ply rating) →
Load Range D (8-ply rating) →

COLD INFLATION PRESSURES—POUNDS PER SQUARE INCH										
20	22	24	26	28	30	32	34	36	38	40
770	820	860	900	930	970	1010	1040	1080	1110	1140
810	860	900	940	980	1020	1060	1090	1130	1160	1200
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
980	1030	1080	1130	1180	1230	1270	1310	1360	1400	1440
980	1030	1080	1130	1180	1230	1270	1310	1350	1400	1440
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1060	1110	1170	1220	1280	1320	1370	1420	1470	1510	1560
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
780	820	860	900	940	970	1010	1040	1080	1110	1140
860	910	960	1000	1040	1080	1120	1160	1200	1240	1270
840	900	930	980	1020	1060	1100	1130	1170	1210	1240
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
860	910	960	1000	1040	1080	1120	1170	1200	1240	1280
950	1000	1050	1100	1140	1190	1230	1270	1310	1350	1390
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
930	990	1030	1080	1130	1170	1210	1250	1300	1330	1370
950	1000	1050	1100	1140	1190	1230	1280	1320	1360	1400
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1040	1100	1160	1210	1260	1310	1360	1400	1450	1490	1540
1030	1100	1140	1190	1240	1290	1340	1380	1430	1470	1520
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
1040	1100	1160	1210	1260	1310	1360	1410	1450	1500	1540
1150	1210	1270	1330	1390	1440	1500	1550	1600	1650	1690
1150	1230	1280	1340	1390	1450	1500	1550	1600	1650	1700
1160	1220	1280	1340	1400	1450	1500	1550	1610	1650	1700
1150	1210	1270	1330	1390	1440	1500	1540	1590	1640	1690
1250	1310	1380	1440	1500	1560	1620	1670	1730	1780	1830
1240	1320	1380	1440	1500	1560	1620	1670	1730	1780	1830
1250	1310	1380	1440	1500	1560	1620	1680	1730	1780	1830
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2000
1330	1420	1480	1550	1610	1670	1740	1790	1850	1910	1960
1360	1440	1510	1580	1650	1710	1770	1830	1890	1950	2010
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2010
1430	1510	1580	1660	1730	1790	1860	1920	1990	2050	2100
1430	1510	1580	1660	1730	1790	1860	1920	1990	2050	2100
1430	1500	1580	1650	1720	1790	1860	1920	1980	2040	2100
1430	1510	1580	1660	1730	1790	1860	1920	1980	2040	2100
1540	1640	1700	1780	1850	1930	2000	2060	2130	2200	2260
1520	1600	1680	1750	1830	1900	1970	2040	2100	2170	2230
1700	1790	1880	1970	2050	2130	2210	2280	2360	2430	2500
810	860	900	940	980	1020	1060	1090	1130	1160	1200
890	930	980	1030	1070	1110	1150	1190	1230	1270	1300
890	940	980	1030	1070	1110	1150	1190	1230	1270	1300
870	910	960	1000	1050	1090	1130	1170	1200	1240	1280
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1390
950	1000	1050	1100	1140	1190	1230	1270	1320	1360	1400
980	1040	1080	1130	1180	1230	1270	1320	1360	1400	1440
950	1000	1050	1100	1140	1190	1230	1280	1320	1360	1400
1010	1070	1120	1170	1220	1270	1320	1360	1410	1450	1490
1070	1130	1180	1240	1290	1340	1390	1440	1480	1530	1570
1070	1130	1190	1240	1300	1350	1400	1440	1490	1540	1580
1070	1130	1180	1240	1290	1340	1390	1430	1480	1520	1570
1150	1210	1270	1330	1380	1440	1490	1540	1590	1640	1690
1110	1190	1230	1290	1340	1400	1450	1500	1550	1590	1640
1160	1220	1280	1340	1400	1450	1500	1550	1610	1650	1700
1240	1300	1370	1430	1490	1550	1610	1660	1720	1770	1820
1190	1270	1320	1380	1440	1500	1550	1600	1660	1710	1760
1250	1310	1380	1440	1500	1560	1620	1680	1730	1780	1830
1250	1310	1380	1440	1500	1560	1620	1670	1730	1780	1830
1340	1410	1480	1550	1620	1680	1740	1800	1860	1910	1970
1310	1400	1450	1520	1580	1640	1710	1760	1820	1880	1930
1360	1440	1510	1580	1650	1710	1770	1830	1890	1950	2010
1360	1430	1510	1580	1640	1710	1770	1830	1890	1950	2000
1430	1510	1580	1650	1720	1790	1860	1920	1980	2040	2100
1380	1470	1530	1600	1670	1730	1800	1860	1920	1980	2040
1430	1500	1580	1650	1720	1790	1860	1920	1980	2040	2100
1460	1540	1620	1690	1760	1830	1900	1970	2030	2090	2150
1470	1570	1630	1710	1780	1850	1920	1980	2050	2110	2170
1460	1540	1620	1690	1770	1830	1900	1970	2030	2090	2150
1510	1600	1680	1750	1830	1900	1970	2030	2100	2160	2230
1520	1600	1680	1750	1830	1900	1970	2040	2100	2170	2230
1510	1600	1680	1750	1830	1900	1970	2040	2110	2170	2230
1610	1700	1780	1860	1940	2020	2090	2160	2230	2300	2370
1310	1380	1450	1515	1580	1640	1700	1760	1820	1870	1930
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Quick Quiz

This short quiz adapted from one published by the Firestone Tire and Rubber Co. can give you a good picture of the tire you need.

Add the point total of these five questions.

1. **How fast do you drive?** Seldom over 50 (2 points), mostly over 50 (3 points).
2. **How often on rough roads?** Seldom (1 point), frequently (2 points), mostly (3 points).
3. **How often with a heavy load?** (Two or more adult passengers, heavy cargo, or both). Seldom (1 point), frequently (2 points), mostly (3 points).
4. **How many more miles will you drive this car?** (Multiply the miles per year by the number of years you'll keep the car.) 10,000 or less (1 point), 25,000 or less (2 points), 40,000 or more (3 points).
5. **What kind of driver are you?** Easy (1 point), average (2 points), hard (3 points).

If your point total is fewer than 8, you can use a bias-ply tire in the lower price range. 8 to 11 points should lead you to a belted tire. If you racked up over 12 points, you'd better get into a radial, or at least a top-quality belted tire.

You're a w

"This is the response Judy Kahn usually gets if she mentions her occupation while pursuing her number one hobby . . . meeting people, especially guys. Judy also hears a lot of the standard jokes about women drivers because she happens to be a driver training instructor (in-car type) for the Los Angeles Unified School District.

But anybody who's had the pleasure or displeasure of riding in a driver training car with an inexperienced student driver probably won't joke about it—at least until he's safely back on his own two feet. We know, we tried it. Honestly, do you think you could keep your cool if a student driver calmly made a left turn onto the wrong side of a four-lane street with cars coming at 40 mph in both lanes? We didn't. Judy did. That wasn't even enough to make her raise her voice.

Judy does raise her voice on occasion though. For instance, a student driver is cruising down a quiet side street—in a flash a piece of cardboard covers the rearview mirror. "What color is that car behind you? You don't know if there's even a car back there do you?" scowls a very serious Ms Kahn. The student didn't know but the next time Judy tried that trick he did know and got a "very good" and one of Judy's patented happy smiles.

The fact that the student had been checking the mirrors and knew what was behind him the second time around is the point of the whole thing, Judy says. "Think I'm maybe a bit rough on these new drivers?" she asks. "Well I'll tell you, one of my most important jobs as a driver training instructor is to make sure the students take driving seriously and think about driving constantly when they're on the road."

95 PERCENT MENTAL

The five other friendly and involved instructors—one of whom also happens to be female—that make up the teaching team Judy is on agree 100 percent with her about the thinking part of driving. They all believe that driving is only 5 percent physical and at least 95 percent mental. And more than simply teaching the mechanics of driving, the instructors are actually trying to teach the students to survive on the highway today, as well as ten years from now, through the development of proper driving techniques and attitudes.

continued

hat ?

Student and instructor adjust their rear-view mirrors before pulling out onto the road. Students are constantly reminded to know what's happening all around them on the road by keeping their eyes moving and using the mirrors. The point being that you can't avoid hazards that you don't know are there.

"Take the mirror trick for example," Judy says. "That's not just a game I play with the driver. One of the essential parts of being a good safe driver is knowing what's happening all around you on the road at all times. And that means you've got to keep your eyes moving and use the mirrors. With most new drivers you have to help them develop this habit because they get so involved with the mechanics of driving they don't think about what's happening on the road. And the habit of being a mechanical driver instead of a mental one seems to carry over. If you don't think so just take a good look around the next time you're on the freeway."

OTHER PROBLEMS

Another driving problem Judy often sees is not aiming high enough in steering. Instead of looking way ahead on the road to see what's happening in the traffic flow, a lot of the students look down at the painted lines on the road right in front of the car. Some students even look right at their hands when they're making a turn or changing lanes.

But the crafty Ms Kahn has a little remedy for this problem. She briefly holds an object such as a clipboard under the student's chin, forcing him to look ahead down the road where he should be fixing his vision. She's also been heard asking a student very patiently, "Why are you looking at your hands? You're not going to run over your hands." Judy keeps her secret weapon ready for really bad moves on the road such as speeding; surprisingly many students do not think about checking the speedometer and they do speed. The secret weapon is the powerful- super instructor's emergency brake. Even a light tap on the brake leaves a lasting impression on the student.

JUDY

Well as you can see, Judy really takes her job seriously—in fact, almost as "unseriously" as she takes life. Judy thinks life is only good for one thing—living. And to hear Judy tell it, there's only one place in the whole world to live and that's at the beach.

If you want to find Judy on most any weekend just head for the Pacific and hit the beach at Venice, California. Then start scoping for a super-looking, dark-haired girl in cut-offs and a tee shirt. About 5'4" and thin, with bouncy long hair blowing in a sea breeze, probably riding a ten-speed—that's likely to be Judy. Now, if you walk up and say "Hi" and get engulfed in a two-hour, animated, interesting conversation covering more subjects than you previously knew existed, and maybe even get invited to a classic, old, plant-filled, beach-front apartment for a "healthy" cookie baked from the purest ingredients—that's Judy for sure.

This exuberant, 24-year-old daughter of a retired Air Force officer feels people are neat and meeting them is even neater. In fact, her interest in people is actually what got her into the somewhat unusual (at least for a female) driving training business.

Judy has a bachelor's degree in sociology with a specialization in probation work. But when she graduated she found that jobs in probation work were scarce. She heard about openings for driver training instructors and figured at the very least it would give her a chance to work with young people.

So after passing the required entrance exams, demonstrating that she herself was a good driver, and completing the specialized training program, one day Judy Kahn found herself sitting rather apprehensively in a driver training car with four "zero"* drivers.

FIRST TIME

"When I got in the car that first day, I had no way of knowing what a zero was going to be like. I took for granted that the students would know the very basics like accelerating, braking, and steering. That was a real mistake. When the student pulled out of the parking lot, I realized that I wasn't really prepared for what might happen and that I was scared. All I could think about that first time out was getting back safe and sound."

Judy did make it back in one piece on that first journey, but she doesn't always. In a year of teaching Judy's been involved in four "mishaps" as she calls them. Always an optimist, Judy thinks some good came out of the accidents—if you can ever say an accident is good. "Most of the students are really aware of the potential hazards on the road. But I think an accident involving the driver training car—which the students feel is somehow sacred or protected—makes them realize what can happen on the road.

"Another thing we always stress that whenever you stop in traffic, stop so that you can see the rear tires of the car in front of you. That way you have a safety cushion of at least a car length if somebody does get you from the rear. In one "rear ender" we really got nailed, but because the student had stopped with the correct space cushion we didn't hit the car in front of us. Needless to say, those students learned firsthand the value of not stopping right on the next guy's bumper."

PHYSICAL PART OF DRIVING IMPORTANT

Since many of the students have never been behind the wheel before they climb into the driver training car, they naturally have a little trouble with the basic coordination of using the brake and accelerator, and in steering, Judy says. Also, many students—especially girls, although the semi-liberationist Judy hates to admit it—don't quite understand the physics of driving. This is shown by their turns which are too short or, more often, too wide.

So during the first few weeks of training the instructors work at helping their students develop skill and confidence in handling the car. They also recommend the students practice driving as much as possible with their parents. The instructors admit this frequently causes problems, however, since many of the parents have terrible driving habits they try to pass on to their children. And big trouble can occur if the student tries to correct his parents' driving.

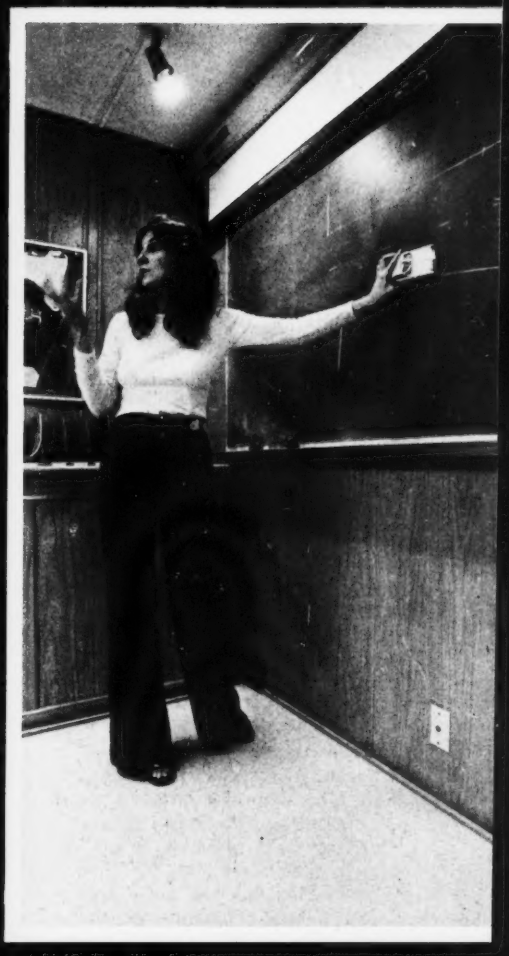
STUDENTS SCARED

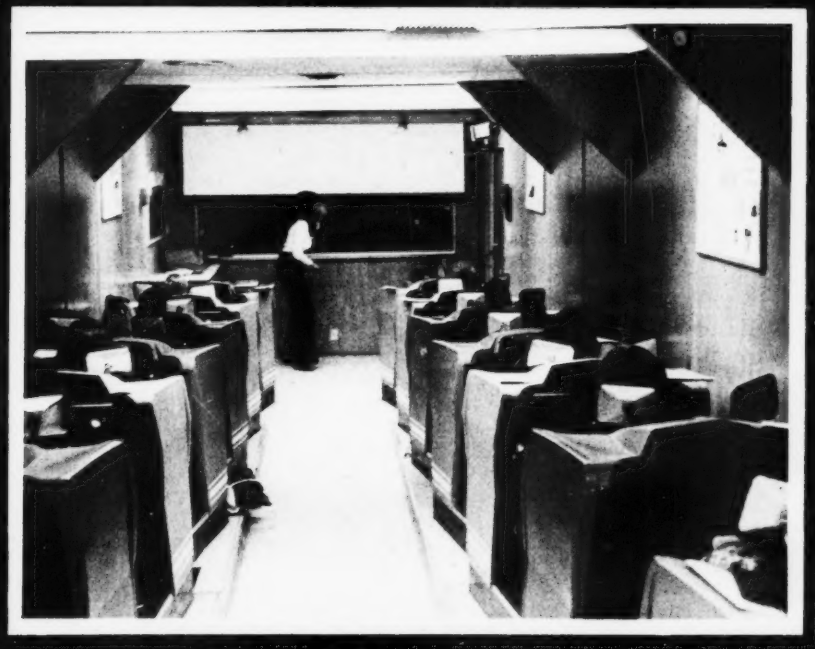
But one of the biggest problems many students have the first few times out, according to Judy, is that they're scared. Judy's perpetual smile and happy personality help with this problem. There's always some clowning around outside the car to get the students to relax while they check the tires and make sure the car is ready to go. Inside the car, however, everything is very business-like—though not necessarily grim. Every student gets greeted with a crazy smile and a "how're you feeling today?" while they strap themselves and adjust the mirrors for their turn to drive. Judy has a unique knack for keeping things live-

continued

**Zero is the term instructors use for students who've had little or no driving experience.*

Out on the road, instructor Judy Kahn reminds a student to check that mirror. Notice the instructor's mirror to the right.





Driving in a trailer? A look inside the driving simulator that is part of the driver training program in the Los Angeles school district. Students pick up valuable experience before going out on the road by "driving" these simulators which look, feel, and respond very much like a real car. Before lights out, Judy discusses a driving technique that will be covered during simulation film.

Judy adjusts the simulator's special computer that tallies how well each student is "driving" as the simulation movie plays in the background.

ly and relaxed inside the driver training car while still keeping the students thinking and tuned in to the seriousness of driving.

FEMALE

Judy thinks that being young and female is a big help in this area—especially with the girls. "I guess the girls get a little more uptight about driving because they aren't as mechanical as many of the guys, and it takes them a little longer to get onto the basic skills. So I think they relate to me better as a female—especially knowing it wasn't that long ago I learned to drive. The guys usually work pretty well for me. Except sometimes they don't take me as seriously as they would a male instructor. But I make it clear right away that—although I like to goof around sometimes—you absolutely don't do it in the driver training car. Generally, I guess you could say that being younger and able to relate well with the students helps to make up for the experience I lack as an instructor."

SIMULATOR

Although it may sound like it, Judy doesn't spend her entire day riding around in a driver training car. Half her day is spent watching students "drive" in a trailer. The trailer is the auto simulator that is an integral part of the driver training program in the Los Angeles school district.

The simulation machines that the students drive in the trailer are exact mock-ups of a standard American car. And sitting behind the wheel of one of the machines is just about like sitting at the wheel of a real car. Movies of various traffic and driving situations are shown on the screen in the trailer, and the student accelerates, brakes, steers, turns, and stops his machine according to the situation on the screen. All the time a sophisticated computer tallies how well each student is driving. As Judy says, "Other than not feeling the front of the car dip when you hit the brakes hard, driving the simulator is pretty close to real driving. The students get a little bored with the machines after a while because they want to get into the real thing, but the simulators do serve an important function."

The main purpose of the simulator machines is to give the students a chance to get the feel of driving before they go out on the street. This is especially helpful for people who've never been behind the wheel. Simulator lessons are also arranged so the students perform all driving procedures they'll be doing on the road in the simulator first. Another advantage of the simulator is that it can be used to put students in driving situations on the screen they can't or wouldn't want to get into on the road.

IPDE

During the trailer part of the course there's also classroom discussion of driving techniques and safety. These usually center around the IPDE approach to driving, which is simply a method of being perceptive and avoiding accidents on the road. In IPDE the I is for Identify potential hazards on the road; P is for Predict what may happen; D is for Decide what to do; and E is for Execute the appropriate action. Basically, the IPDE simply emphasizes keeping aware on the road and spotting trouble areas in time to take action.

As Judy points out, "A lot of the knowing-what-to-do part of this system comes with driving experience. But the really important thing is the **Identifying.** If you know what's happening everywhere on the road—especially well ahead of you—it makes your choices a lot easier. For instance, it's a lot easier to decide whether you want to merely slow down or change lanes than it is to decide whether you want to run into the back of a car or go into the ditch because you failed to spot a problem.

OTHER DRIVERS

With the amount of time Judy spends thinking and talking about driving and being out in traffic, you'd probably guess she has opinions about how people drive. She does. "I really think a lot of drivers on the road have bad driving habits and attitudes. I think I'm a good driver simply because I'm courteous, I think about driving, and I react to what people are doing. Most people don't. Take turn signals for a good example—it's important to communicate on the road to let others know what you're doing, but many people don't even signal.

"Also, most people make very bad judgment mistakes on the road. Running the yellow for instance. If you'd stop to imagine what can happen when you run a light you'd have to be crazy to do it. Yet you see it constantly. The vast majority of accidents are unnecessary because they're simply the result of not thinking or bad judgment by the driver. And alcohol—well maybe I'm prejudiced because I don't drink, but alcohol-related accidents really bother me because they are totally unnecessary."

HOW SHE FEELS

So all in all, what does Judy Kahn think of her occupation? "Well, as you know, I'm a little bit crazy so I really dig it. No, not really—I mean I am a little crazy and I do like being a driver training instructor, but you don't have to be crazy to like it. It really is an important job and there's a terrific amount of satisfaction in it. When you take zero drivers who are total hazards on the road and help them become reasonably safe drivers, you feel like you've done a good thing for them and for everyone else on the road. After all, I have to drive home every night knowing that some of my students are out there, so believe me I do the best job I can.

"Hey, you know what?" Judy says as an after-thought, "I'll bet you think it really bothers me to drive home at night after riding around all day with crazy drivers, surrounded by even crazier drivers. But when I get in my car to head home, I forget all about work and just think about driving. That's an important thing—you shouldn't be thinking about anything but driving when you're driving—never forget that."

We won't forget it, just like we won't forget meeting the liveliest and best looking driver training teacher anywhere. And here are some driving tips Judy passed along to us that you might not want to forget either:

1. Think about driving all the time you're on the road and know what's happening all around you. Get the big picture—know what's going on way ahead of you, behind you, alongside the road, and on the side streets.

2. To know what's happening on the road, keep your eyes moving and use your mirrors.

3. Learn to predict possible hazards on the road and decide what you're going to do about them in time to do it. In other words, play the "what if?" game—what am I going to do if that driver does this?

4. Just because something is legal doesn't make it safe or correct.

5. Always communicate your intentions to other drivers by using turn signals, hand signals, and eye contact.

6. Whenever you stop in traffic, always stop so that you can see the rear tires of the car in front of you. This gives you a car-length cushion in case of a rear-end collision, or if the driver ahead of you decides to back up all of a sudden.

7. When preparing for a left turn go about a third of the way into the intersection and never turn your wheels until you're ready to turn. This way if you're rear-ended, chances are you won't be knocked into the on-coming traffic.

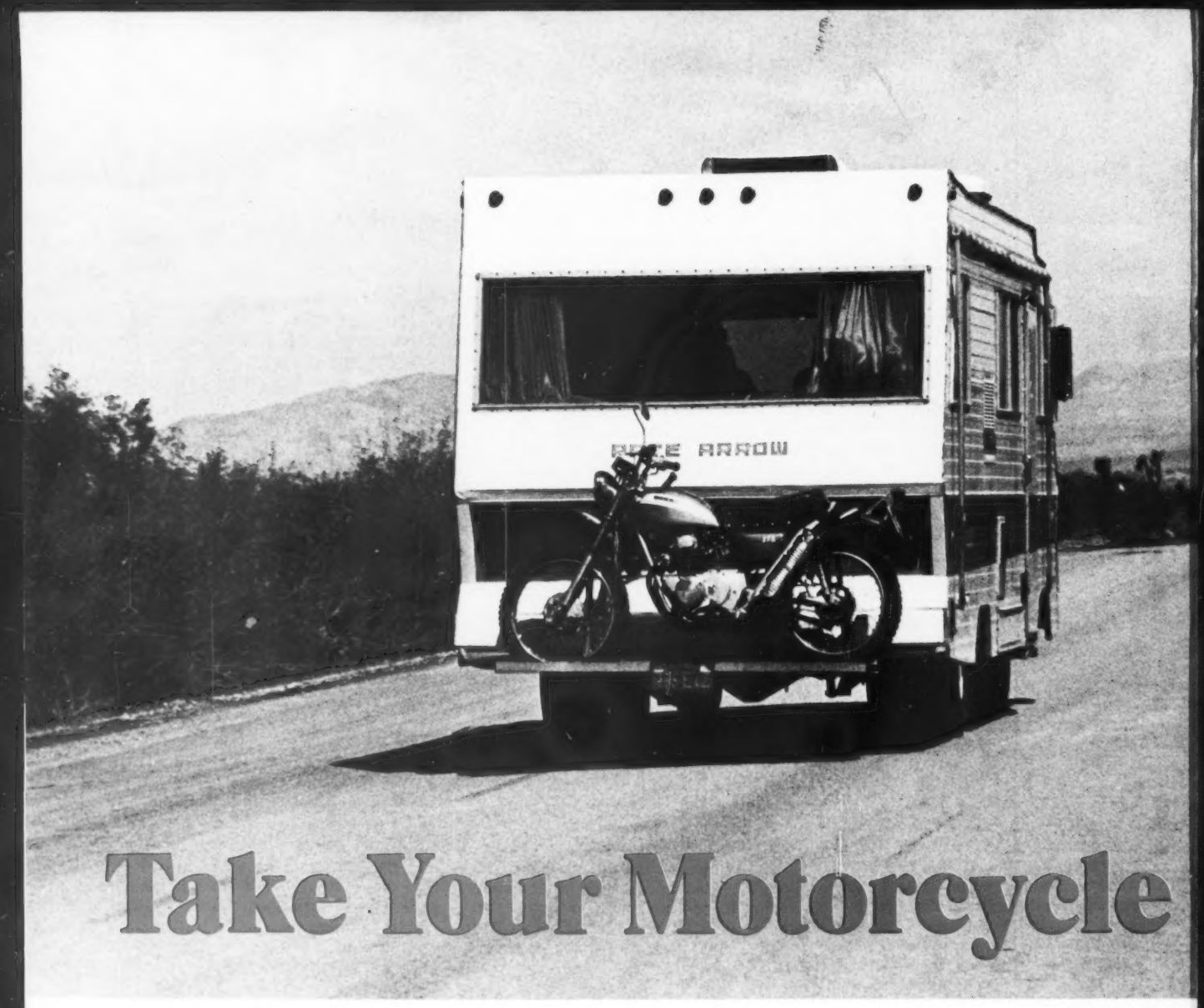
8. When making a left turn into a multi-lane street, the best bet is to take the lane closest to the center divider even though it's legal in many states to turn into the outside lane if you choose. Don't forget to check to see where other people who are turning are going.

9. Laws and techniques for driving change regularly. Take a good periodic look at your state's driver handbook.

10. Become familiar with the areas you drive in regularly so you know where the hazardous spots are—for instance, learn where the traffic bottles up and where a lot of side street traffic enters the main street.

11. Above all, be courteous on the road.

At the end of the day.



Take Your Motorcycle

Recreational vehicles of all kinds and sizes can be a lot more fun if you carry along a cycle. The two-wheeler lets you get away from the campground for sightseeing, grocery runs, or trips to town, and its economy can't be beat.

But preparing to transport the bike on the RV takes time and attention. Most RV owners carry motorcycles from 80cc to about 175cc. The 175 will no doubt be more comfortable and give better performance but remember that it weighs more—around 300 pounds—and that's a lot of weight when it comes to loading. The smaller cycles can be lifted into a basket carrier by one person. So if you haven't bought a cycle yet, you might want to keep that point in mind.

The kind of motorcycle carrier you select will depend on both the RV and the cycle. Basket carriers are the least expensive (starting at about $10) while a swing-away carrier will cost the better part of $100.

The bumper-mounted basket carrier will take a cycle weighing as much as 500 pounds but the motorcycle must be lifted into the basket. You also have the problem of where to mount the basket. If you're towing a trailer, the rear bumper of the towing vehicle usually cannot be used for the basket.

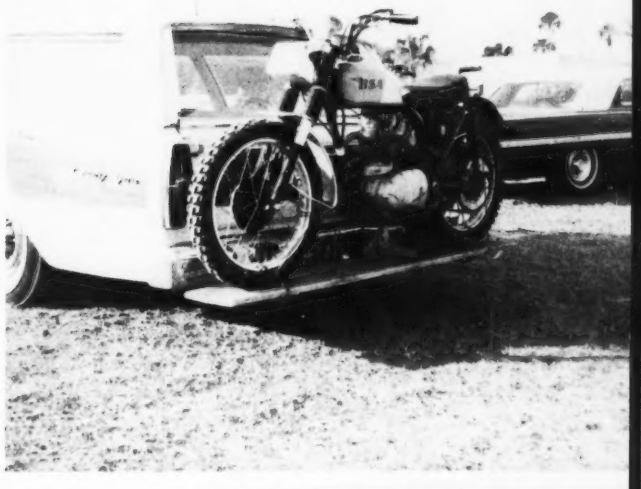
BE LEGAL AND SAFE

Front bumper mounts are illegal if either the lights or the driver's vision are blocked. The motorcycle also will catch rocks and dirt from passing traffic and could interfere with airflow around the radiator of your vehicle.

Some camper and trailer manufacturers will not honor their warranty if you mount a motorcycle on the

Along

Blocking the rear door of a camper is illegal if it's the only exit.



It is also illegal to block taillights and clearance lights.

Some state laws regulate the extension of a vehicle and require red flags or lights if over six inches beyond the vehicle.

rear, so you should read your owner's literature before deciding on that method.

Blocking the rear door of a camper is illegal if it's the only exit—to say nothing of the fact that it makes for inconvenience in getting in and out of the camper.

It is also illegal to block taillights and clearance lights. This problem can often be overcome by raising the taillights or using temporary lights mounted on a board and attached to the motorcycle. A trailer receptacle can be used to plug into the vehicle light system. Some state laws also

continued

TAKE YOUR MOTORCYCLE WITH YOU

regulate the extension of a vehicle and require red flags or lights if over six inches beyond the vehicle bumper.

The swing-away carrier which mounts on the bumper is very convenient since it involves no lifting, but otherwise it presents the same problems as the basket. Motorhomes and trailers frequently use the swing-away type as a fixed channel, without the swing arrangement. A removable ramp is attached at one end and the bike is rolled up on the carrier and strapped down.

You can also tow the motorcycle. One hauling device bolts right onto a trailer hitch. The front wheel of the cycle is pushed up a ramp onto the carrier and the rear wheel remains on the ground all the time. You can haul two bikes at a time this way, but such a method requires that the cycles be registered so it's no good for trail bikes. Some provision must be made for brake and taillights. Remove the cycle chain if you're traveling any great distance.

GOOD BUT EXPENSIVE

If you aren't already towing a vehicle, a cycle trailer is convenient, especially if you have more than one cycle or want to carry a tent or other cumbersome gear in addition to the motorcycle. It's also the most expensive way to go, although you will see many RVers who have converted old boat trailers into cycle trailers to keep the cost down.

Of course, if your motorcycle is small enough or your door big

MOTORCYCLE STATE LAW REQUIREMENT CHART

	Headlight Required Equipment	Headlight Must Be Illuminated All Times	Handle Bars Not To Exceed 15" Above Seat	Helmet Required	Eye Protection Required	Special Motorcycle License Required	Noise Law Enforcement	Rearview Mirror Required	Passenger Seat Required	Passenger Foot Rests	Safety Inspection
ALABAMA				X					X		
ALASKA				X	X				X	X	
ARIZONA	X		X	X	X	X			X	X	
ARKANSAS		X		X	X				X	X	X
CALIFORNIA	X		X			X	X	X	X	X	
COLORADO	X			X	X		X	X			X
CONNECTICUT				X	X	X	X	X	X	X	
DELAWARE		X		X	X	X		X	X	X	X
DISTRICT OF COLUMBIA				X	X	X		X	X	X	X
FLORIDA		X	X	X	X			X	X		X
GEORGIA	X				X			X	X	X	X
HAWAII				X	X	X		X	X	X	X
IDAHO				X			X		X		X
ILLINOIS	X	X	X		X	X		X	X	X	
INDIANA		X	X	X					X	X	X
IOWA	X					X			X	X	X
KANSAS				X					X		
KENTUCKY				X	X	X		X	X	X	X
LOUISIANA				X	X	X		X	X	X	X
MAINE				X	X	X		X	X	X	X
MARYLAND			X	X	X	X		X	X	X	
MASSACHUSETTS			X	X		X		X	X	X	X
MICHIGAN			X	X	X	X					
MINNESOTA	X			X		X		X	X	X	X
MISSISSIPPI								X			X
MISSOURI				X		X					X
MONTANA		X				X					X
NEBRASKA				X		X					X
NEVADA	X			X		X					
NEW HAMPSHIRE				X	X	X		X	X	X	
NEW JERSEY				X	X	X		X	X	X	X
NEW MEXICO				X	X	X		X	X	X	X
NEW YORK	X			X	X	X		X	X	X	X
NORTH CAROLINA				X				X			X
NORTH DAKOTA				X		X		X	X	X	X
OHIO				X	X	X		X	X	X	
OKLAHOMA				X	X			X	X	X	X
OREGON		X		X		X		X			
PENNSYLVANIA				X	X	X			X	X	X
RHODE ISLAND				X	X	X		X	X	X	X
SOUTH CAROLINA			X	X	X	X		X	X	X	X
SOUTH DAKOTA				X		X		X	X	X	X
TENNESSEE				X	X	X		X	X	X	
TEXAS				X		X					X
UTAH				X	X	X			X	X	X
VERMONT				X	X	X		X	X	X	
VIRGINIA				X	X	X		X	X	X	X
WASHINGTON				X	X	X		X	X	X	
WEST VIRGINIA			X	X	X			X	X	X	X
WISCONSIN		X		X	X	X		X	X	X	
WYOMING											X

NOTE: Laws are being amended and added continuously. Be safe. Check with local officials or carry full safety equipment.

enough, you can carry the cycle right inside the rec vehicle.

As we said before, your motorcycle will provide you with a lot of freedom once your camp is established. But you have to face certain restrictions, too. (So what else is new?)

In the first place, there are some campgrounds that absolutely prohibit motorcycles. They can enter and exit at Death Valley, California, for instance, but can't operate within the campground. Although campers are welcome around the Everglades, Florida, motorcycles may be considered undesirable by some camp operators.

Certain areas are closed completely to motorcycles because of damage done by hill climbing, which led to erosion during rains or spring thaw. And national forests may require spark arrestors on trailbikes if operated off established main roads.

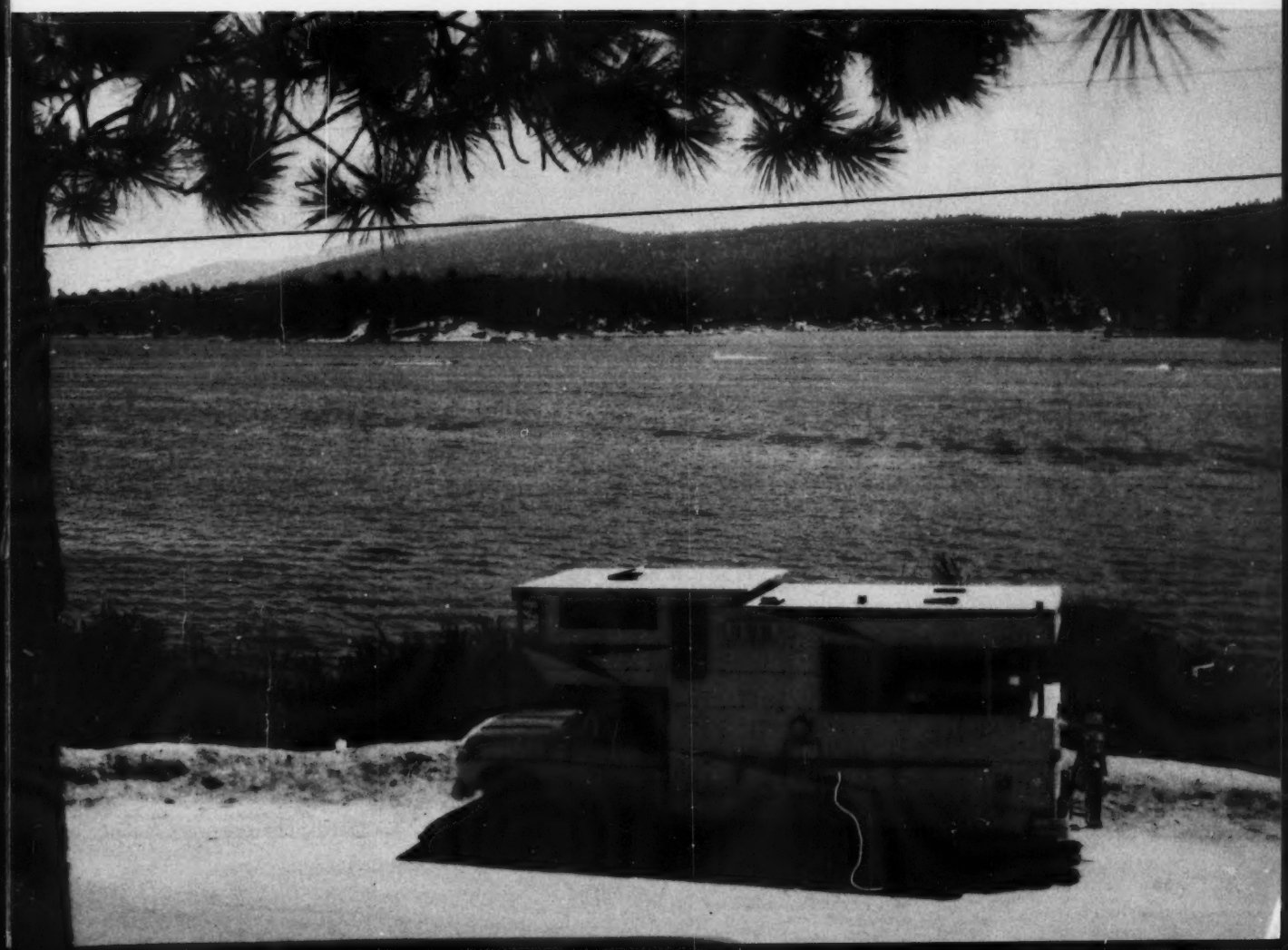
CHECK IN ADVANCE

For reasons such as these, the wise camper learns as much as possible about the area he is planning to visit before he gets there. If you are traveling into another state, find out in advance whether you will need a special license and what the laws are about operating headlights and wearing helmets. Most states are happy to supply you with information. If you don't have an exact address, write to the Department of Motor Vehicles at the capitol city. Your inquiry will find its way to the right place.

Advance information can save you not only inconvenience but trouble and expense. For example, there are thousands of motorcyclists in California, where there is no mandatory helmet law. A lot of those Californians have been taken by surprise when cited by police in other states for riding their cycles or trail bikes without wearing helmets. The fact that they just didn't know any better is not considered a legal excuse.

Travelers should be aware that all traffic laws are being enforced in the United States more firmly than ever before—the out-of-state tags and driver's license that used to let a motorist or cyclist get away with minor infractions may not help anymore. In part this is because many traffic safety people believe the 55 mph speed limit is the main reason for the remarkable decrease in traffic deaths we experienced in this country last year. So they are determined to enforce all traffic laws while enforcing speed limits. It is also in part because the federal government is encouraging the states to enforce their safety and energy-conservation laws.

*(Portions of this material are courtesy of Frank L. Hicks, Jr., **Trailer Life Magazine, March '75.**)*



What Service People Should Know About

CATALYTIC CONVERTERS

by Chrysler Military Sales Corporation

Q. What is a catalytic converter?

A. A catalytic converter is an anti-pollution device which uses platinum and palladium as catalysts to convert the exhaust pollutants, carbon monoxide and hydrocarbon to harmless carbon dioxide and water vapor.

In appearance, it looks like a small muffler and is fitted into the exhaust system between the engine and the muffler.

There are two basic types of converter; the pellet type, used by GM and AMC, and the honeycomb monolith type used by Chrysler and Ford.

Although different in design, both types use platinum and palladium as catalysts and both perform in the same manner.

Q. Why do we need a catalytic converter?

A. The Federal Government requires that all automobiles produced in the 1975 model year meet certain pollution control standards. The automobile manufacturers have found that in most cases the catalytic converter is the best way to meet these standards without decreasing engine performance.

Q. Do all cars need them?

A. No. Chrysler offers two engines which do not require a catalytic converter to meet '75 emission standards and will run on leaded fuel.

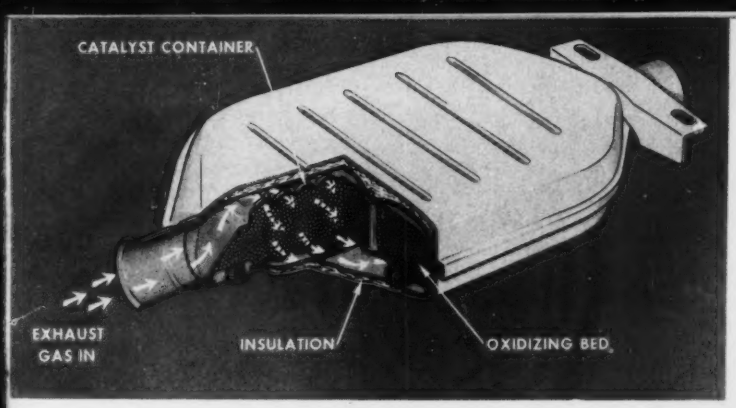
Ford is also offering some engines which will not have catalytic converters, but which will still require the use of unleaded gas. General Motors is fitting catalytic converters to all of their cars, and will require the use of unleaded gas.

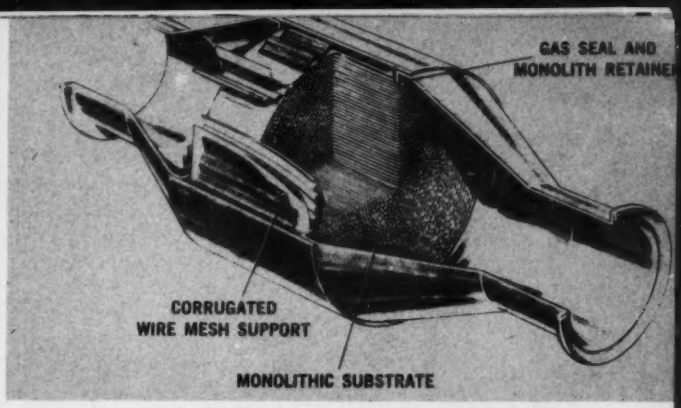
Q. Does the catalytic converter affect gasoline consumption?

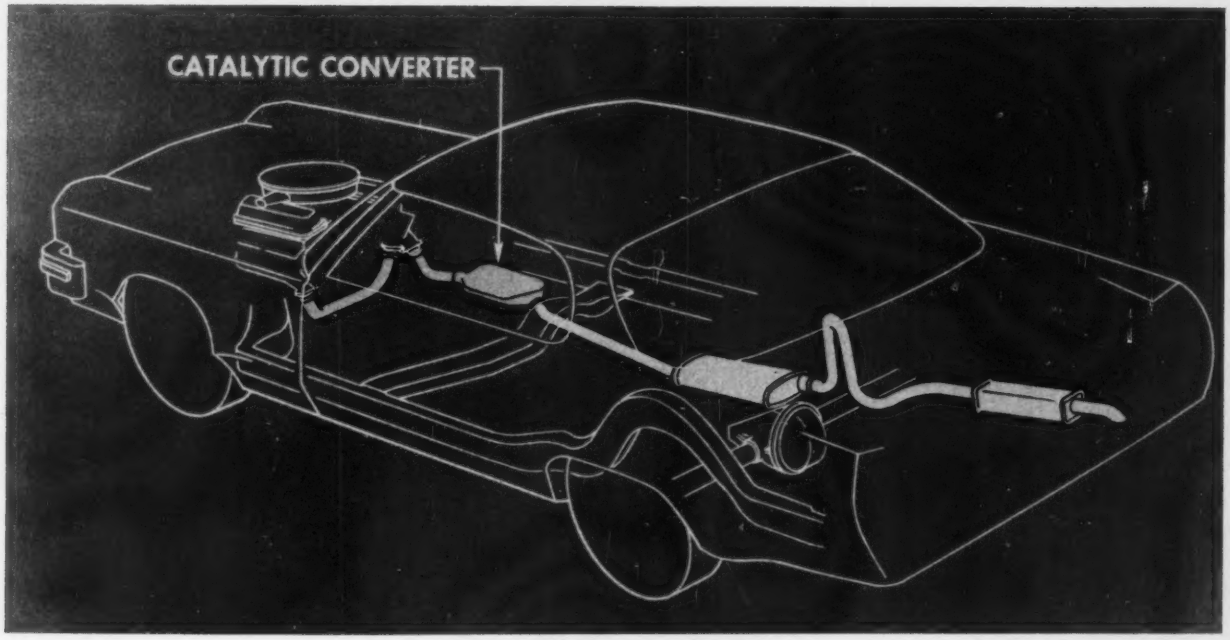
A. The catalytic converter works by controlling emissions in the exhaust system, not in the engine. Therefore, 1975 cars can be tuned for maximum economy and performance while still emitting less harmful pollutants than ever before. A catalytic converter-equipped 1975 car can obtain up to 15% better mileage than a comparable 1974 car. As an added bonus, the use of unleaded fuel will greatly prolong spark plug and exhaust system life, thereby reducing the frequency of tune-ups and expensive muffler replacement.

Q. How long will the converter last? Does it need replacement?

A. Catalytic converters are required by







law to last 5 years or 50,000 miles, but with the exclusive use of unleaded fuel and normal engine maintenance, the converter should last the life of the car.

The catalyst causes the oxidation of the harmful pollutants but does not take part in the reaction; therefore, the catalytic substance is not used up and remains effective indefnitely. Lead in gasoline "poisons" the catalytic converter by coating the catalytic substances, causing it to become ineffective.

Q. How do you service a catalytic converter?

A. The catalytic converter requires no servicing under normal operating conditions. If leaded gasoline is used or if the converter is damaged through poor engine maintenance, the catalytic substance must be replaced. The cost of this is between $50 and $100. But, as we have said, with exclusive use of unleaded fuel and normal engine maintenance, the converter should last the life of the car.

Q. How available is unleaded fuel?

A. Since the introduction of the 1975 cars there has been no instance of a shortage or lack of availability of unleaded fuel in any area of the United States. Federal law requires any station which has pumped more than 150,000 gallons in any year since 1971 to carry unleaded fuel. As more cars requiring unleaded fuel are produced and demand increases, even the smallest stations will offer it. Unleaded fuel is generally not available overseas.

Q. Can the catalytic converter be removed and the car operated without it?

A. If the car is to be driven in the U.S.A. it is against the law to remove the catalytic converter, and anyone doing so is subject to heavy fines. However, if the car is to be driven overseas the catalytic converter may be removed.

Chrysler Military Sales offers an inexpensive conversion kit which enables a 1975 Plymouth, Dodge and Chrysler to be driven overseas without the catalytic converter, and when the car is returned Stateside, the catalytic converter can easily be reinstalled.

GM-type converters are adapted by simply removing the pellets from the converter. Designated GM dealers will be able to remove the pellets and mount an inexpensive plastic adapter in the fuel tank filler neck to permit using unleaded fuel. The pellets may be kept in a container and stored by the car owner.

When spring comes along and the snow tires are back in storage, most drivers figure their weather problems are over for a while. And it's true that once we've said good-bye to ice and snow and sleet, driving should be a lot more pleasant, and safer, too.

But warm weather can stir up some perilous conditions. One of the most dangerous is fog.

Existing in conditions of high humidity, fog can vary from a minor inconvenience to a major hazard. A few miles from DRIVER's office, a major freeway runs through a canyon where heavy morning fog is fairly common. Sometimes there are pileups of more than 100 cars. Wreckage is strewn along for a mile or so, minor injuries abound, and there's an occasional fatality. Insurance men probably have nightmares about that stretch of freeway.

Are these chain-reaction crashes in fog avoidable? Most people think they aren't. But there are techniques for driving in fog and if every driver understood them perhaps we could prevent such accidents.

It is not too difficult for the weatherman to predict conditions that make fog a distinct possibility (and so-called mist and haze are included in this term), but he cannot predict just what form it will take. It might show up in a light enough state so that you can still see for several hundred feet ahead, it might appear as wispy patches, it might be so thick that visibility is restricted to a few feet, or it may be encountered suddenly on an otherwise clear road.

Regardless of the form fog takes, treat it with the utmost suspicion. If you drive into a fog patch be convinced you're in a touchy situation. If you do not slow down right away you might smash into the rear of a vehicle whose driver did slow down quickly. On the other hand, if you do slow down quickly someone who didn't might crash into you. So, always try to "read" the fog density down the road. If the vehicle ahead starts to become less clear (or, if it's at night, his taillights become more difficult to see), chances are the fog is thickening. *That* is when you slow down,

continued

Summer Driving Weather

which also gives any traffic behind you a chance to slow down. Everybody then has a better chance to avoid hitting the vehicle ahead if the fog really gets heavy in a hurry, which it has a habit of doing.

A patch of dense fog may extend only for a few feet or for miles; there is no way of knowing while you're in it. You can only treat the situation with extreme care. Under no circumstances should you move along at a pace you know is too fast because you can still make out the rear or the taillights of the vehicle ahead. There is nothing to prove that the driver of that vehicle isn't driving on blind faith, or perhaps he in turn has picked out a vehicle ahead whose driver is doing just that. It could end up in a serious multi-car pileup, one of the unfortunate trademarks of driving in fog.

One common fog condition—sometimes called mist—can occur in seemingly flawless weather, especially at night or in the early morning in valley and low-ground areas near marshes. You might be traveling along in a clear, star-filled world when suddenly you're enveloped in thick wet haze that may even coat your windshield with moisture. You may be able to see the stars out the upper part of the windows, but at and below eye level the fog is blinding. If you run into such conditions, start your windshield wipers (and washer, to help clear accumulated road dirt) and slow down with due caution. It possibly will be only a small layer of low-lying fog caused by high humidity and the temperature variations of air and earth in that immediate area. You can often spot these fog patches (or mist layers) lying across the road with your headlights. But sometimes they can be waiting for you as you crest a hill or dip into a shallow valley.

COPING WITH FOG

What can a driver do about fog?

Note what the weatherman has to say about possible fog conditions if you are planning a trip or even if you're just going to work. Delay the trip if possible, but at least be prepared not to make as good time.

If you do get caught in a fog, turn your headlights on low beam, even if it is the middle of the day. You want your lights to see as well as to be seen.

Do not use the high beams. The lights will bounce off the millions of tiny airborne water droplets that make up fog, and come right back at you as if reflecting off a white curtain.

If you suddenly find yourself in one of those "pea soupers," treat it as an emergency. Try to find a place to pull off the road. Be considerate of other people's property, but you will want to put something between you and moving vehicles—space, trees, telephone poles, a private driveway, anything that removes you from less cautious drivers.

Never try to bluff your way through thick fog thinking that since others do it then it must be okay. If visibility is near zero and you feel you must stop but you are not sure whether or not you are in a safe place, leave your lights on, start your flashing lights, and sound your horn at intervals, or when you hear approaching traffic. If you really become nervous because of the position you're in, it may be better to get away from the car if you feel you must. But remember that any resonsibility for liability might fall on you, depending on circumstances. It is a difficult situation to be sure, and it is easy to understand why motorists are advised to interrupt a journey at the first sign that fog might be getting serious.

Never try to pass other vehicles in fog, unless it is moderate enough that you can see a distance ahead equal to what you will need to pass. Even then, be prepared to delay your pass if you suspect the fog is thickening ahead. Never pull out to pass when visibility is limited with the thought you "probably" have enough time and room. By the same token, if someone tries to pass you, make it easy for him. If he is crowding his luck, slow down and edge to the right. Be prepared to take evasive action if suddenly oncoming traffic forces him to veer in your direction.

Keep your car's defogging equipment operating to bathe the inside of the windshield with air whenever you

drive in any type of fog conditions, warm weather or cold. In high-humidity conditions, even a light build-up of moisture on the inside of the glass cuts down on your already limited visibility. Run your windshield wiper and washer occasionally too; moisture can build up on the outside glass and the "fog" you think you can see may actually be an accumulation of moisture on the outside of the windshield. You may actually be in the clear.

RAIN

The other summer weather hazard of course is rain. Wet roads mean you cannot stop as fast, accelerate as crisply, or maneuver as well as you can on dry roads. But this doesn't seem to get through to some drivers. They go on treating rain, with its attendant slippery road surfaces and reduced visibility, more as an inconvenience than as a hazard. How many drivers do you see go right on driving at the same speeds when it starts to rain, even though common sense says the road is certain to be slippery? Too many.

Just why does the wise driver slow down when it starts to rain? Well, for one thing, when it rains after an extended dry period, the water can mix with dust and with accumulated oil dripped from vehicles on some road surfaces and may form a slippery mixture. These roads can remain slippery until enough rain has fallen to wash away the mixture. How long this takes depends on how hard it rains and how much accumulation there is on the road. The point is, it's always wise to reduce speed and become very cautious if it starts to rain while you are driving. Just the fact that the surface is suddenly wet and your reflexes are tuned for driving on dry pavement, should be enough warning to slow down.

Visibility also can be a minus factor. The heavier the rain, the harder it is to see. Even if your windshield wiper blades are in good shape, a heavy rain can partially obscure road signs and traffic signals, pavement markings, the edge of the road, and even pedestrians who at that moment may be more interested in avoiding puddles than they are in avoiding your car. Road spray from other vehicles can coat your windshield with a fine opaque coating, even after the rain has stopped. This is one very good reason to keep your wiping equipment in good shape and your windshield washer reservoir filled. Road spray can often be more obscuring than rain, especially if it comes from a dirty road surface.

There are, of course, other factors that make wet weather driving hazardous. Accumulated water and big puddles can cause problems if you drive through at too high a speed. For one thing, the water can affect brakes on some cars. So you should try to avoid accumulated water, but if you can't, you should at least reduce speed. Once you are clear of the water, lightly apply pressure to the brakes. If the car pulls to one side or the brakes are less effective than they should be, make several light applications keeping in mind the traffic behind you and allow the heat from the friction to dry the brake linings or pads.

If you must drive through a large area of water, you might lightly place your left foot on the brake pedal while activating the accelerator

continued

pedal with the right. This helps keep water from the brake linings. But if you haven't done this before, practice it in good weather at slow speeds when no traffic is around. Some people may be a little uncoordinated the first time they try to do something with their left foot that they normally do with their right.

HYDROPLANING

You've probably heard about hydroplaning. There are different views as to just what conditions must exist before hydroplaning may occur. But it is generally agreed that if there is enough water present on a road surface and if a vehicle is moving fast enough, a wedge of water can build up under the tires until they may actually ride on the water (hydroplane) with little or no contact with the road. (See "Hydroplaning," Feb '74 DRIVER.)

The dangerous thing about hydroplaning is that you may drive along for some time without realizing your tires are not in constant contact with the road surface. You find out the hard way, when you have to maneuver—slow, turn, move out to pass—or if you get hit by a gust of wind. Then, you may be out of control.

The conditions that might make hydroplaning possible vary with each individual road and driving situation. If the road is sloped so that water runs off quickly, if the tires have deep tread and the design is such that water escapes quickly through the grooves, if tire pressures are adequate, if the speed isn't too great for the amount of water present, then there is not much chance of hydroplaning. But, if your tires haven't much tread, if the pressure in one or more is low, if the road surface is such that water accumulates (even though it isn't raining too hard at the moment), and if there is enough water on the road to cast reflections from trees, telephone poles, or other cars, and raindrops "dimple" the water's surface, you can be fairly certain that conditions are present for possible hydroplaning.

Hydroplaning is a problem mainly on higher speed roads. A standard-size car with good tires, inflated to recommended pressure levels, might not start hydroplaning until 35 to 40 mph on a fairly wet road surface. At 50 to 55 mph the tires might become waterborne if enough water is present. There just isn't any hard and fast rule about hydroplaning. The only safe thing to do is to slow down when it is raining and be extra careful. Ignore those drivers who continue to move along as though the sun were still shining. It is true that some drivers will get away with such tactics, but according to accident statistics, a good many do not.

One survey indicates that rain plays a part in two-thirds of the bad-weather accidents. *And more people are killed on wet roads than on ice and snow-covered roads combined.* There's a strong message here.

SOME WET WEATHER TIPS

- Turn on your headlights—not your parking lights—to help make you more visible to others.
- Use your heating-defrosting-defogging equipment to clear the inside surface of the glass of moisture. This equipment is versatile enough for use in all weather, warm or cold. Check your Owner's Manual if you are not quite sure how it works in various situations.
- Replace windshield wiper blades just as soon as they show signs of streaking, missing areas on the windshield, or when strips of rubber start to separate at either end of the blade.
- What you see through the rearview mirrors may be distorted by raindrops on the outside mirror and rear window. So, you may have to take an extra look and double check for hard-to-see vehicles coming up behind. (This is a good reason for driving with your headlights on even during daylight hours when it's raining.)
- Besides slowing down, allow some extra following distance. And be especially careful when you pass another vehicle. Allow yourself more clear room ahead and be prepared to have your view restricted by road spray. If the road spray is so heavy you are actually blinded, it is better to drop back and follow the vehicle than to risk disaster.

Use only good tires with proper tread depth.

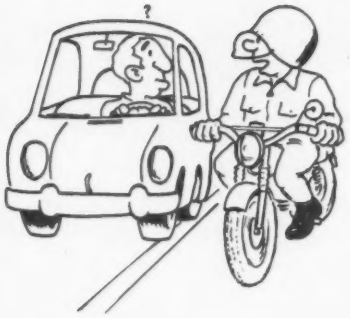
What's Wrong Here?

Although the tire on the right looks very similar to its neighbor, at 16 pounds pressure it is underinflated by 33 percent. This means it may wear only half as long and could cause handling problems.

Because the bulge of radial tires has become so familiar, we tend to check pressure by sight instead of using a tire pressure gauge. As a result, many of us may be running around on underinflated tires that will wear out faster and possibly fail. DRIVER highly recommends buying and using a tire pressure gauge, no matter what kind of tires you use. It really pays!

(Photo and information courtesy Firestone Tire and Rubber Co.)

BACKFIRE



YOU SAY IT'S EASY?

My story is slightly different from that of Lt Rinker ("The Cycle," February DRIVER). I bought my motorcycle new in September 1973 for about the same reasons as Lt Rinker but I didn't take the motorcycle safety course. I suffered with increasing wonderment through the series of close calls, people who didn't see me, cars turning in front of me, pulling into my lane of traffic. I actually kept from being forced off the road when I yelled at a man through his open window while he was moving into my lane of traffic. His reaction convinced me that he had not seen or heard my motorcycle . . .

Yesterday, a year and a half after I bought my motorcycle, I attended the motorcycle safety course at NAS Whidbey Island. I had developed, I feel, a healthy attitude about riding but I didn't know how to ride with any real precision. It took me so many feet to stop at 20 mph that I'll save you a laugh by not mentioning the distance. I was using the wrong technique completely . . .

From the very first, I have been awed by the insidious confidence riding gives one in his own abilities. You didn't fall off on your first ride . . . "Hell, this is easy!" you told yourself. "I wonder how fast this beast will go!" And on it goes. All this and my only lesson riding a motorcycle was from the salesman who said, "You push down here to shift into first . . ."

Well, the safety course has opened my eyes. I'm going to spend more time at the driving course to try and increase my abilities . . .

LCDR John S. Rock
NAS Whidbey Island
Oak Harbor, WA 98278

SKILLFUL DRIVING IN THE UK

While I've been stationed in the UK I've been confronted with many a minor challenge to my driving skill. Recently I was driving through a small English village on the usual "liquid sunshine" day; the road was typically narrow and damp. A car pulled to a stop from a side road with almost half of it blocking my lane. With on-coming traffic approaching in the opposite lane and me unable to stop in time on the wet road, I put my right turn signal on and elected to accelerate, partially infringing on the opposite lane, and swing around the front of the protruding car because I felt confident I could "beat" the on-coming traffic to the intersection.

I drive a Porsche 911T. This technique, although not necessarily orthodox, saved me from a collision with a stationary vehicle or a moving vehicle. Emphasis must be placed on a driver's experience and his car's capabilities, and on how well a driver knows his car.

Incidentally, the January issue had a picture of a 5-way roundabout which I drive on at least once a week. In the right side of the photo, in the wooded area, you can see many wrecked cars. Nearly all of these cars belonged to American servicemen stationed at Mildenhall or Lakenheath and obviously the cars were involved in various kinds of accidents at this point over the years. A couple of hundred cars rusting away should be a warning to users of UK roads.

Major Edward A. Semon
Box 501
APO New York 09179

FIRE EXTINGUISHERS

While completing my active duty for training I read some back issues of DRIVER and was particularly interested in a letter from LtCol Gordon

R. Links (May '74) who said he used a soft drink container as an extinguisher. Another inexpensive fire extinguisher, and one that I always carry, is a box of baking soda. Just spread the soda on by hand as though you were throwing wheat.

Those who cook should keep a box of soda handy for small fires in the kitchen.

Frederick L. Orton CTAC, USNR-R
18981 Abbotsford Circle
Germantown, MD 20767

Although we recommended that every motorist carry a properly rated fire extinguisher, we certainly agree that these methods are good to know about.

OLD AND DIRTY

Here's one thing I've learned about driving old cars—no matter how dirty the oil looks, no matter how dirty you think the lubrication system may be, *don't* run any kind of solvent (like kerosene) or crankcase cleaner through the engine. I've done it twice and regretted it both times.

In many cases the piston rings in a high-mileage engine are pretty well frozen in their grooves. Oil passages are partially blocked and bearings very heavily sludged. When you run a solvent through the oil, it does a swell job of loosening the rings, opening the passages and cleaning already-worn bearings. The result: your engine will begin leaking like a sieve and gulping oil past the rings and around the valve guides.

It's better to do just as you advised in "Keeping It Going" (Jan '75), and use heavy oil and change filters more often. With old cars, preventive maintenance will provide cheap transportation.

Sgt Robert M. Sexton
TUSLOG Detachment 10
APO New York 09289

You certainly should not use kerosene or other volatile solvents, but an engine with 50,000 to 70,000 miles should stand an approved crankcase flusher without problem. As you say, however, we advocate frequent oil and filter changes for dirty engines.

SWEET TALK TO US

Thanks for a terrific magazine. I read it cover to cover every month, whether there are girls in it or not. Thanks too for the Backyard Mechanic reprint that I received some months ago.

Now, if I could only persuade you to reprint the motorcycle articles, my day would be complete!

Again, thanks for a good reading magazine.

Arthur B. Miller, YN1, USCG
98-915C Kaonohi Street
Aiea, Hawaii 96701

Unfortunately, there just isn't any money to do reprints. But we are certainly pleased with the demand from you readers. Please don't anyone else write—we are completely out of the "Backyard Mechanic" reprints.

MORE SWEET TALK

I've been able to get more from—and do more as a result of—the articles in DRIVER than any of the professional, commercial books . . .

Claude Gulliford
Chief, Training & Development
APO New York 09403

LIGHTS ON!

Glancing through the December issue, I noticed the statement from Captain Husson, "Motorcyclists should avoid being a nuisance with daytime use of high beam."

As a motorcycle rider, I disagree and I will continue to be a nuisance to "the other guy" by riding during daylight hours with my headlight on and in high beam. I'd rather be a nuisance and be seen than be a nice guy and get creamed.

I would certainly like to see legislation in California to make wearing of brain buckets and use of headlights at all times mandatory! I congratulate those states that have already done this.

Keep up the good work on a fine and informative magazine. I enjoy every issue.

RM3 Rick F. McCusker
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Motorized Bicycling

If you rode a "moped" while you were stationed overseas, you've probably wondered why these fancy little motor-assisted bicycles haven't caught on in this country. Well, the Highway Users Federation says they are the hottest new item on the American transportation scene and there soon will be as many in our urban areas as there are in European cities.

Sturdy and dependable, these bike-like vehicles can be pedaled or motor-driven and their big feature is economy – they can get more than 100 miles to the gallon.

However, the Highway Users Federation predicts a controversy over how the states will legally classify the moped for traffic and safety purposes. Should they be registered? Should riders be tested, licensed, and asked to wear helmets? Should they be allowed on highways? Bicycle trails?

If this low-cost, fuel-efficient vehicle comes on as predicted, it's going to cause a traffic safety and regulations dilemma the likes of which we haven't seen since the introduction of lap belts in passenger cars.

Vehicle Fires Increasing

There are about half a million motor vehicle fires a year and the number is increasing at an alarming rate—five times the rate of increase for fires in buildings.

The Insurance Institute for Highway Safety has found that fuel system ruptures are a major source of post-crash passenger car fires, and that vehicle age has a very high correlation with the probability of fire. For example, although half the passenger vehicles now on the road are less than five years old, only a quarter of the vehicles involved in fires were less than five years old. The percentage of vehicle fires increases greatly for vehicles ten or more years old.

The fuel system integrity standard put in effect by the federal government in 1968 requires passenger car fuel systems to withstand a 30 mph frontal collision into a fixed barrier without experiencing fuel losses at a rate greater than one ounce a minute after impact. But most of the fuel system ruptures are the result of **rear end** collision damage, including both rear corners. A new standard will require car fuel systems to withstand rear–but not rear corner –impacts up to 30 mph.

1974 A Good Year On The Highways

The Department of Transportation says 1974 was the best year since 1963 in terms of traffic fatalities. Although many reasons have been advanced for this remarkable improvement–almost 10,000 fewer people killed than in 1973–the safety experts seem to be settling on two main causes: lowered speed limits and less driving. If these are indeed the reasons, then deaths should decline even more dramatically as the states step up their efforts to enforce the nation-wide 55 mph limit.

What Your Driving Tells

Psychologist Joyce Brothers believes "the time will come when passing a psychological test will be as important in getting a driver's license as knowing how to park."

Dr. Brothers, of TV and radio fame, told delegates to the National Highway Safety Conference that Americans are usually very sophisticated about analyzing why they behave in certain ways, but "this self-awareness stops once a person slides behind the wheel of a car."

Dr. Brothers said people drive as they live, "expressing behind the wheel of the car their attitudes towards each other and society."

Accident Causes

More than four out of five automobile accidents are caused by "human factors," mostly driver errors, according to the Department of Transportation.

Vehicle factors, such as brakes and tires, caused only 4.2 percent of the accidents studied. This important new study seems to indicate that national emphasis should be placed on helping drivers and improving highways rather than in making changes in automobiles and tires.

The four leading human factors in accidents are:

- improper lookout
- excessive speed
- inattention
- improper evasive action

The leading environmental factors:

- view obstruction
- slick roads
- roadway design problems

About Miss DRIVER

Melody Paulsen's hobbies are hula and Tahitian dancing, and she also plays the guitar. She has been driving for three years and her pet peeve is the driver ahead of her on the road who doesn't use his turn signals.

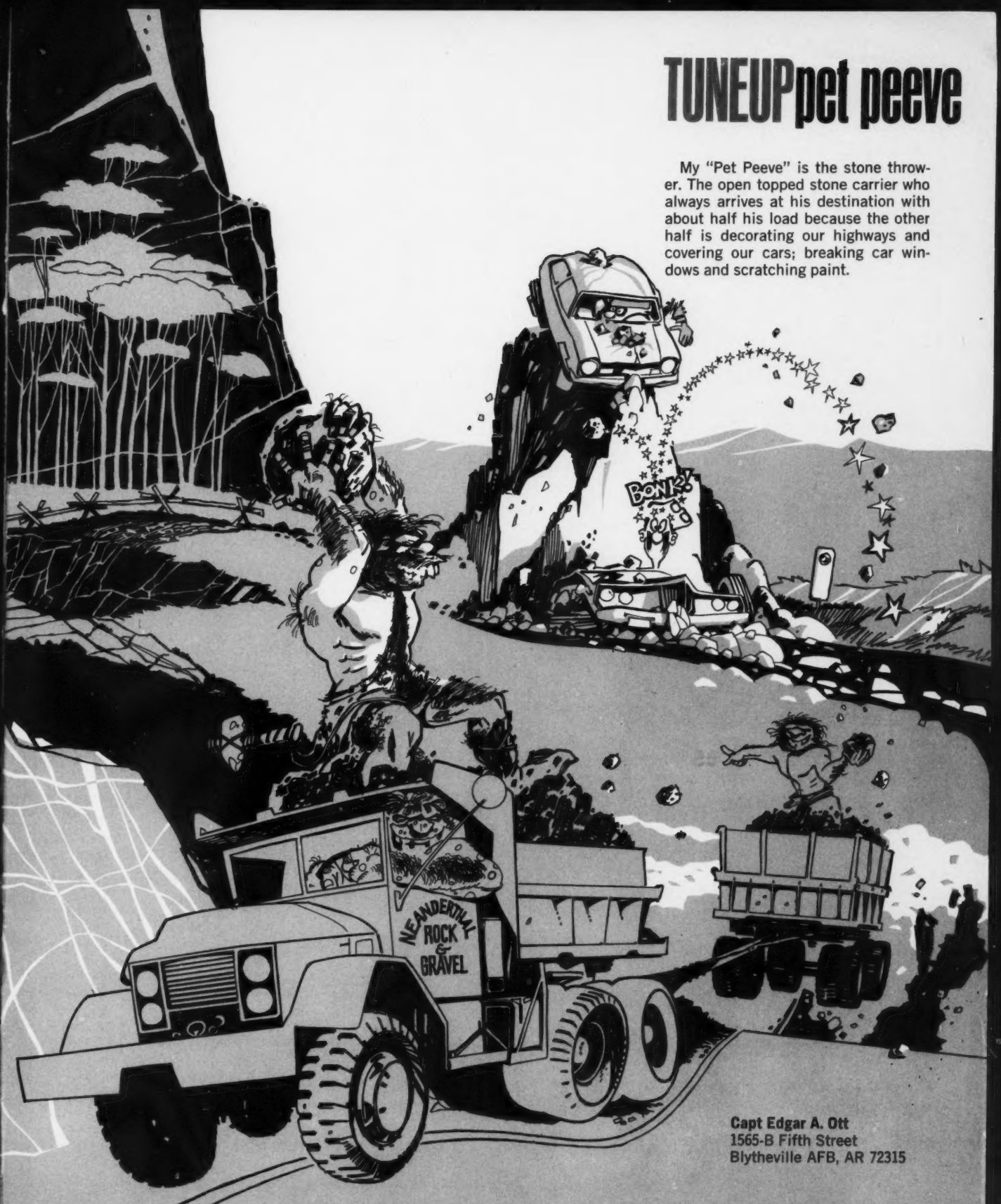
Wanted

A razor-sharp technical editor who has practical experience in automotive and motorcycle maintenance, riding and driving. Must be a good writer and photographer. If interested, send resume with samples of work. Include your autovon phone number, AFSC and job title. Position available in July. Air Force E-6 and below only.

☆U.S. GOVERNMENT PRINTING OFFICE: 1975—683-108/9

TUNEUPpet peeve

My "Pet Peeve" is the stone thrower. The open topped stone carrier who always arrives at his destination with about half his load because the other half is decorating our highways and covering our cars; breaking car windows and scratching paint.



Capt Edgar A. Ott
1565-B Fifth Street
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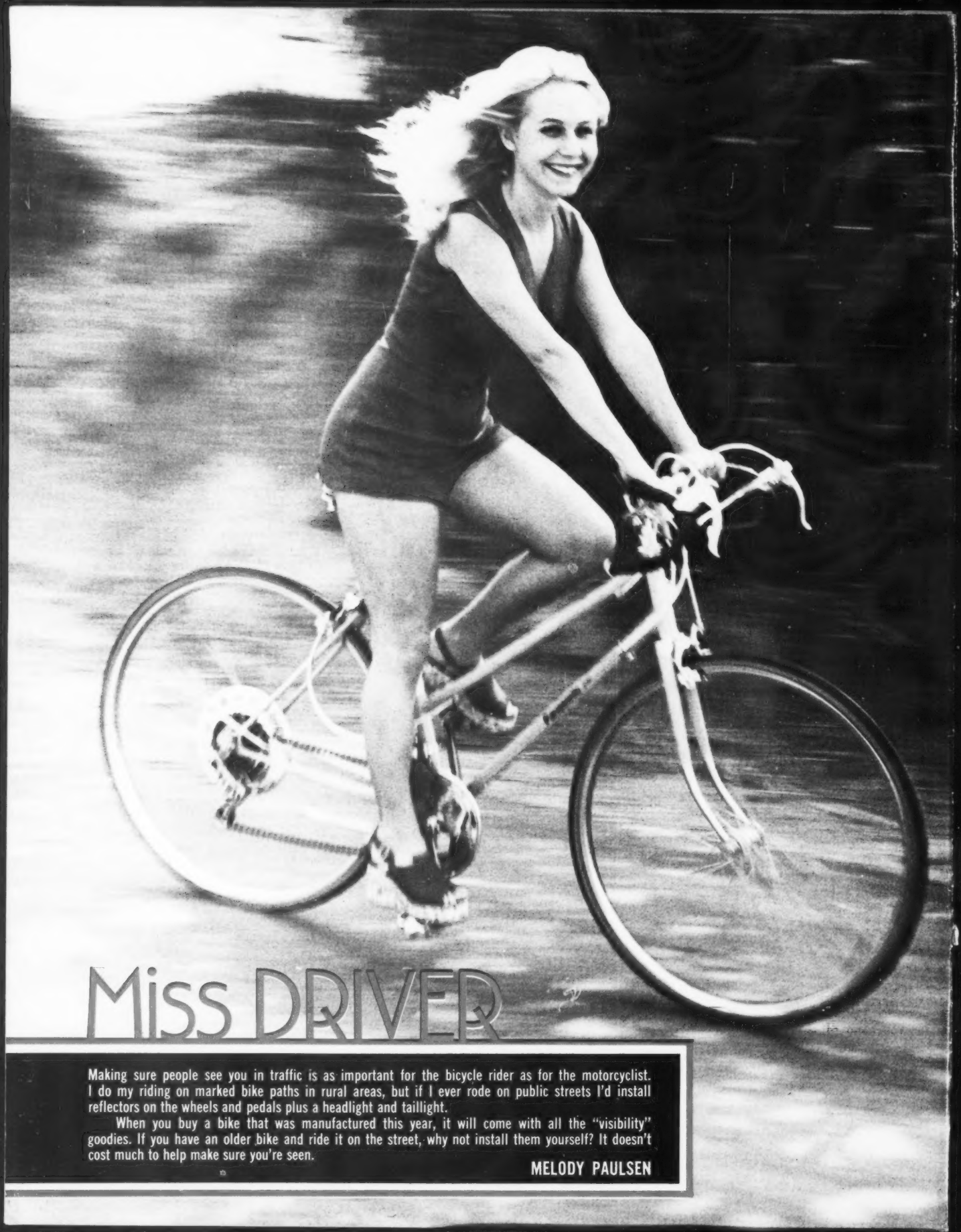

Miss DRIVER

Making sure people see you in traffic is as important for the bicycle rider as for the motorcyclist. I do my riding on marked bike paths in rural areas, but if I ever rode on public streets I'd install reflectors on the wheels and pedals plus a headlight and taillight.

When you buy a bike that was manufactured this year, it will come with all the "visibility" goodies. If you have an older bike and ride it on the street, why not install them yourself? It doesn't cost much to help make sure you're seen.

MELODY PAULSEN